Individuals and organizations who testify at this hearing should submit three copies of their written testimony for the official record on the day they are to appear at the hearing.

To the extent that the conditions for the hearing, as described in this notice, conflict with any provisions set out in part 15, this notice acts as a waiver of those provisions as specified in 21 CFR 15.30(h).

Dated: December 30, 1991.

William K. Hubbard,

Acting Deputy Commissioner for Policy.

[FR Doc. 91-31329 Filed 12-30-91 3:53 pm]

BILLING CODE 4160-01-M

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Office of the Assistant Secretary for Housing-Federal Housing Commissioner

24 CFR Part 3282

[Docket No. R-91-1540; FR-2985-A-01]

RIN 2502-AF42

Manufactured Home Procedural and Enforcement Regulations

AGENCY: Office of the Assistant Secretary for Housing-Federal Housing Commissioner, (HUD).

ACTION: Advance notice of proposed rulemaking.

SUMMARY: HUD is soliciting public comments on certain changes to the structure of the monitoring program used to enforce the manufactured housing construction and safety standards required by section 604 of the Act. HUD has proposed some alternative regulatory structures which would change the current third party design and inspection program and system of monitoring and enforcement.

These alternative monitoring procedures are intended to provide a more efficient and effective regulatory enforcement program which will assure protection of the consumers, while lessening the burden on the manufactured housing industry.

DATES: Comments due date: March 4, 1991.

ADDRESSES: Interested persons are invited to submit comments regarding this proposed rule to the Rules Docket Clerk, Office of General Counsel, room 10276, Department of Housing and Urban Development, 451 Seventh Street, SW., Washington, DC 20410. Communications should refer to the above docket number and title. A copy of each communication submitted will be available for public inspection and copying between 7:30 a.m. and 5:30 p.m. weekdays at the above address.

FOR FURTHER INFORMATION CONTACT: David C. Nimmer, Director, Office of Manufactured Housing and Regulatory Functions, Department of Housing and Urban Development, 451 Seventh Street, SW., room 9156, Washington, DC 20410-8000. Telephones: (voice) (202) 708-1590; (TDD) (202) 708-4594. (These are not toll-free numbers.)

SUPPLEMENTARY INFORMATION:

I. Background

On October 21, 1991, the Secretary published in the semiannual regulation agenda the intention to issue an advance notice of proposed rulemaking concerning the structure of the monitoring program (56 FR 53380, 53398). This advance notice of proposed rulemaking is intended to provide an opportunity for public input to improve the methods used to verify that designs, inspection procedures, and construction of manufactured housing result in homes which meet the Manufactured Home Construction and Safety Standards contained in 24 CFR 3280.

The Secretary has currently approved eight companies and one state agency to approve manufactured home designs of the manufacturers. These agencies are called Design Approval Primary Inspection Agencies or DAPIAs.

In addition, HUD has approved seven companies and thirteen State agencies to provide inspection services of manufacturing facilities. These agencies are known as Production Inspection Primary Inspection Agencies or IPIAs. The State IPIAs may serve as exclusive inspection agents inside of their state. In all other States, manufacturers may contract with any other approved private IPIA for the required inspection services in the manufacturing plant.

Since 1976, HUD, with the assistance of a monitoring contractor, has evaluated the performance of all IPIAs and DAPIAs. In addition, the monitoring contractor inspects dealer lots for violations of the manufactured home standards. The contractor also conducts investigations for the Department, and provides training seminars and workshops for the education of personnel involved in design approval and inspection of manufactured homes.

Based on information provided by the monitoring contractor, and staff analysis, the Department annually determines if the performance levels of the DAPIAs and IPIAs are adequate for continued acceptance as primary inspection agencies. The Department reviews and authorizes the use of monitoring procedures used by the Monitoring Contractor, which are implemented after extensive discussions with the manufactured housing industry and the primary inspection agencies.

A. Options for Changes in the Monitoring Procedures for the Manufactured Housing Industry

To consider alternative monitoring procedures for administering the manufactured home construction standard program, the Department hereby proposes several options for public comment. Parties who believe that the current Manufactured Home Procedural and Enforcement Regulations (24 CFR part 3282) should be maintained are encouraged to write the Department and express their reasons for this view. Also, the Department is seeking other possible options which could accomplish the same program objectives in a more efficient and effective manner.

Option No. 1: Maintain Existing Monitoring and Enforcement System; Establish Uniform Inspection and Design Review Fees

This option would maintain the present basic monitoring and enforcement system. However, to eliminate any potential conflict of interests, HUD would set a uniform inspection fee and design review fee through regulation, and all PIAs would be compensated directly and equally by the manufacturers.

Other matters, such as specific criteria for initial plant certifications and recertification of the manufacturing process will be accomplished by changes in the Manufactured Home Procedural and Enforcement Regulations (24 CFR part 3282).

Option No. 2: HUD Would Audit Performance of Primary Inspection Agencies. Monitoring Contractor's Role Would Be Redefined To Include Technical Assistance in the Development of Performance Standards and Administrative Support to the Department

Under this option, manufacturers would continue to pay primary inspection agencies directly for inspection services. The manufacturer's label fee would be paid directly to HUD or its administrative agent.

HUD would hire Field Office auditors to monitor the performance of primary inspection agencies and perform random audits of the manufacturers. HUD staff engineers, with the technical services contractor, would monitor the effectiveness and accuracy of the design

reviews to meet the Standards. HUD and the primary inspection agencies would notify manufacturers of nonconformances with the standards.

The responsibilities of the Monitoring Contractor would be changed to provide technical services in the development of procedures rather than the auditing of primary inspection agencies. The Monitoring Contractor would also perform administrative functions such as the collection and tracking of label fees, maintenance of the technical library of approved designs along with other matters which can be done at lesser cost by contractor personnel.

HUD would establish a uniform fee schedule for primary inspection services and design review services. HUD would also use the current per floor fee for the payment of a technical services contractor along with the additional costs of staffing and overhead to administer the program.

This type of system would more closely resemble other Federal agency inspection procedures where the inspectors are generally Federal government employees, and are held directly accountable to the Department and not to the industry they inspect.

Option No. 3: IPIAs and DAPIAs Would Be Eliminated and Design Approval and Inspection Services Would Be Performed by the Monitoring Contractor or by HUD

Fees to be paid for inspection services would be set by regulation. The monitoring contractor woud provide technical assistance in the development of performance standards and administrative support.

This option would consolidate all of the design review and inspection functions into one organization, either the monitoring contractor or the Department. The Department would establish uniform rates for providing the design and inspection services. In conjunction with private and non-profit organizations, the Department would continue to develop performance-based standards to improve the quality and durability of manufactured homes.

B. Other Changes in the Manufactured Housing Enforcement Regulations

HUD has under consideration a number of changes to 24 CFR 3282 which would update and clarify policies concerning the enforcement of the regulations. The definition of the recreational vehicle would be clarified to indicate which types of products would be subject to the Manufactured Home Construction and Safety Standards. Also, the procedures for the approval of alternate construction requests would be changed to include an inspection of such work once the home is sited.

HUD is considering eliminating the DAPIA function to be replaced by a self certification by manufacturers that designs comply with the Manufactured Home Construction and Safety Standards (24 CFR part 3280). Also, we are considering further definition of the circumstances under which a manufacturing plant would have to be recertified by the IPIA and certain other changes in IPIA monitoring of the manufacturing facility.

Finally, complaint handling procedures would be streamlined, and procedures for conducting notification of manufactured home owners under 24 CFR 3282.404 would be clarified for those situations where the State in which the manufactured home is located is different from the State in which the manufactured home is produced. HUD would welcome any comments concerning these sections of the enforcement regulations or any other areas where changes are needed.

C. Comments Requested

Comments are requested on these proposals and other related matters which could be the basis for changes in the monitoring structure. All comments will become part of the public record and can be viewed by calling the Rules Docket Clerk, Office of General Counsel, Department of Housing and Urban Development, at (202) 708–2084, between 7:30 a.m. and 5:30 p.m. weekdays.

Dated: December 6, 1991.

Arthur J. Hill,

Assistant Secretary for Housing-Federal Housing Commissioner.

[FR Doc. 92–23 Filed 1–2–92; 8:45 am]

BILLING CODE 4210–27–M

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 73

[MM Docket No. 91–347; FCC 91–384]

Processing Procedures for Commercial FM Broadcast Applications

AGENCY: Federal Communications Commission.

ACTION: Proposed rule; correction.

SUMMARY: On December 18, 1991, at 56 FR 65721, the Commission published a Proposed Rule, in this proceeding concerning Commercial FM Broadcast Applications. This document corrects the reply comment date.

DATES: The reply comment date is March 4, 1992.

ADDRESSES: Federal Communications Commission, Washington, D.C. 20554.

FOR FURTHER INFORMATION CONTACT: Irene Blieweiss, Audio Services Division, Mass Media Bureau (202) 632–6485.

Federal Communications Commission.

William F. Caton,

Acting Secretary.

[FR Doc. 92–58 Filed 1–2–92; 8:45 am]

BILLING CODE 6712–01–M

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 571

[Docket No. 91–68; Notice 01]

RIN 2127–AC64

Rollover Prevention

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation.

ACTION: Advance notice of proposed rulemaking (ANPRM).

SUMMARY: This advance notice announces that NHTSA is considering whether to propose a Federal motor vehicle safety standard (FMVSS) to reduce the casualties associated with rollovers of passenger cars, pickup trucks, vans, and utility vehicles. NHTSA is considering regulatory actions in the areas of improved vehicle stability (so as to reduce rollovers), improved crashworthiness (to provide increased occupant protection in the event of a rollover), and consumer information on a vehicle's rollover propensity. The above actions may be pursued singly or in combination. This notice requests comments and information to assist the agency in determining whether to issue a proposal and if so, what form that proposal should take.

DATES: Comments on this notice must be received by the agency no later than April 3, 1992.

ADDRESSES: Comments should refer to the docket number and notice number and be submitted in writing to: Docket Section, National Highway Traffic Safety Administration, room 5109, 400 Seventh Street, SW., Washington, DC 20590. Telephone: (202) 366–5267. Docket hours are 9:30 a.m. to 4 p.m. Monday through Friday.

FOR FURTHER INFORMATION CONTACT: John Hinch, Office of Vehicle Safety Standards, Crash Avoidance Division, National Highway Traffic Safety Administration, 400 Seventh St., SW., Washington, DC, 20590 (telephone 202–366–5398).

SUPPLEMENTARY INFORMATION:

I. Overview of Notice

The goal of this advance notice is to obtain data and other information that would assist the agency in determining the feasibility of developing a viable and appropriate standard or standards related to reducing the frequency of vehicle rollovers and/or the number and severity of injuries resulting from vehicle rollovers. This notice summarizes past research efforts by the agency to accurately predict the rollover accident involvement rate of vehicles, and discusses various alternatives for rulemaking action. This notice also contains a number of questions and requests for information that would further improve the agency's understanding of rollover accident and injury causation.

This notice is supplemented by two documents. The first is NHTSA's technical analysis of the effect of various vehicle factors, including tilt table results, on vehicles' rollover involvement. The paper provides a detailed statistical discussion of the relationships between rollover accident involvement and various measures of vehicle rollover stability that could serve as the basis for a vehicle performance requirement. The second document is NHTSA's preliminary regulatory evaluation of the potential costs, benefits and other impacts of the contemplated rule. Both documents are available from NHTSA's docket section at the address and telephone number provided at the beginning of this notice.

The vast majority of rollover crashes are caused by the interaction of three factors: The driver, the vehicle and the environment. NHTSA has completed several years of physical testing, data analyses, and computer modeling regarding this problem, particularly with respect to the vehicle's role in rollovers and rollover casualties. As a result of the agency's efforts, NHTSA has identified several means of potentially reducing these casualties. These include: (1) Methods to reduce the incidence of rollovers; (2) means to mitigate injuries given that a rollover occurs; and (3) the provision of consumer information to educate consumers on the relative rollover propensities of vehicles.

The agency is seeking comment on these three potential courses of action, which may be undertaken separately or in combination. Ideally, the agency would prefer to significantly reduce the number of rollovers; thus, a crash avoidance-type standard would be most desirable. Of the vehicle rollover stability measures evaluated, the "tilt table" ratio (described below in this notice), appears, at this stage of the rulemaking, to be the most promising at explaining a significant portion of a vehicle's rollover propensity. At the same time, there are indications that factors related to vehicle control and stability characteristics are also influential. One such factor which has shown correlation with rollover involvement rates is whether the vehicle is equipped with antilock brakes. In view of the fact that rollovers will always occur in some numbers, the agency is also seeking comment on means to better protect occupants in such crashes. Since a large number of fatalities associated with rollovers result from ejection from the vehicle, means to increase safety belt use—the primary means to prevent ejection—or provide different restraint systems in vehicles most prone to rollovers, could be beneficial. Other means of occupant protection, such as increased roof strength or interior padding, are also being considered. Finally, the agency is considering providing information to consumers, based on a vehicle rollover stability test such as the tilt table test, on the relative rollover propensity of vehicles.

In analyzing the rollover involvement of a particular vehicle model in its search for means to avoid rollovers, the agency focused on the ratio of rollovers to single vehicle accidents involving that model (RO/SVA) as the accident rate measure. This measure uses the number of single vehicle accidents involving a particular vehicle model as the "exposure" measure (i.e., a measure of the opportunity for a rollover accident to occur). After a review of rollover exposure measures, NHISA decided to use this accident rate measure based on a rationale similar to that presented by I.S. Jones ("Vehicle Stability Related to Frequency of Overturning for Different Models of Car," Proceedings of 7th Australian Road Research Board Conference, 1974, Vol. 7, Part 5).

Jones concluded that the RO/SVA exposure metric more accurately depicts a vehicle's rollover propensity than the ratio of rollovers involving that model to the total vehicle miles travelled (VMT) by that model (RO/VMT) or to the total number of registered vehicles of that model (RO/RV) because the latter two metrics are heavily dependent on the extent of the vehicle's involvement in single vehicle accidents. This dependence is undesirable because a vehicle that has a relatively high ratio of SVA's to VMT or to number of registered vehicles may nevertheless have a relatively low ratio of rollovers to SVA's. The vehicle factors that lead to the high number of SVA's may not lead to a high number of rollovers. The rollovers per VMT or registered vehicle rates could be high for the vehicle because the vehicle has significantly different handling characteristics than other vehicles, which contribute to the vehicle's involvement in more SVA's. While those handling characteristics may contribute to SVA's, their contribution to rollovers may not be proportionate. Jones believed that by using the "rollover to single vehicle accident" ratio, the confounding influence of such vehicle factors, unrelated to vehicle rollover stability, would be significantly reduced. NHTSA believes this is reasonable since the vast majority of rollovers occur in SVA's. Therefore, the occurrence of the SVA can be viewed as the opportunity for, and, thus an exposure measure of, a rollover accident. While the RO/SVA rate alone does not provide a complete characterization of the overall rollover accident involvement of vehicles, the agency believes that it is an adequate measure for consideration in a rulemaking action. Nevertheless, should the agency decide to pursue regulation in this area, it solicits comment on the appropriate measure of rollover risk. For example, should the agency relate risk to vehicles (RV) or single vehicle accidents (SVA)? What are the advantages and disadvantages of RO/RV and RO/SVA as a measure of rollover risk?

The agency believes that, while it is important to assess a vehicle's rollover stability vis-a-vis other vehicles generally, it is equally important to compare the performance vis-a-vis other vehicles in the same class. A vehicle's basic design characteristics, i.e., those that are shared by other vehicles in its class, reflect the function for which the vehicle was designed. For example, the relatively narrow track width (compared to passenger cars of the same weight) and high center of gravity height of utility vehicles are characteristics that enhance the off-road operation of the utility vehicle class. Yet, a vehicle's basic design characteristics significantly influence the vehicle's involvement in various accident modes. For example, with all other parameters equal, a tall and narrow vehicle is more likely to roll than a low, wide vehicle. An assessment of the extent that a vehicle's rollover

stability can be improved must include consideration of the degree to which vehicle characteristics essential to the use of the vehicle can be preserved.

The types of vehicles addressed by this notice are the "light duty vehicles," which include passenger cars and "LTV's" (i.e., light and full-size pickup trucks, and multipurpose passenger vehicles (MPV's) with a gross vehicle weight rating (GVWR) of 10,000 pounds or less). MPVs are defined in 49 CFR 571.3 as vehicles designed to carry 10 or fewer persons, and are constructed either on a truck chassis or with special features (usually, four-wheel-drive) that allow for off-road operation. MPVs include full-size passenger and cargo vans, and passenger vehicles with four-wheel-drive or other features for off-road use. These off-road passenger vehicles are often referred to as "sport utility vehicles" (SUVs) in the automotive industry. This terminology is consistent with NHTSA's Consumer Information Regulation, Utility Vehicles (49 CFR 575.105), which refers to "utility vehicles" as MPVs that have a wheelbase of 110 or fewer inches and special features for occasional off-road operation. Section 575.105 requires manufacturers of such utility vehicles to alert drivers that the particular handling and maneuvering characteristics of these vehicles require special driving practice when the vehicles are used on paved roads. Of the SUVs on the market today only three, the Toyota Land-Cruiser with a wheelbase of 112.2 inches, the Lamborghini LM002 with a wheelbase of 122.4 inches and the Chevrolet/GMC Suburban with a wheelbase of 129.5 inches, do not fall in the category of "utility vehicle" as defined by § 575.105.

II. Background

A. The Rollover Accident Problem

Based on data reported in a 1986 report documenting analyses conducted by NHTSA's National Center for Statistics and Analysis, rollover accidents are the most dangerous collision type for light duty vehicles, measured by the ratio of fatal/incapacitating injuries to the number of occupants involved in a tow-away crash. In terms of fatalities per registered vehicle, rollovers are second only to frontal crashes in their level of severity. These high injury and fatality rates are even more alarming given the fact that rollovers are by far the least frequent crash mode, as measured by accident involvements per registered vehicle. The General Estimates System (GES) of the National Accident Sampling System for 1989 estimates 137,600 rollover accidents involving passenger cars. Of these, 124,800 are single vehicle rollovers, and the vast majority of these, 114,800, occur off the roadway. For LTVs, there are 75,600 rollovers, and 65,800 single vehicle rollovers. Of the latter, 57,200 occur off road. (These estimates are based on the GES, which is a probability sample of policy accident reports. Since the estimate are based on a sample, they are subject to sampling and nonsampling errors. The 1989 General estimates Systems Report's Appendix C, Technical Note, explains the GES sample design and the accuracy of the estimates. A 68 percent confidence interval—the estimate + or − one standard error—for the GES numbers in this report using the generalized variance formulas in Appendix C are: 137,600±13,000; 124,800±12,000; 114,800±11,000; 75,600±8,000; 65,800±7,000; and 57,200±7,000.)

Based on 1989 Fatal Accident Reporting System data, 5,682 fatalities occurred in passenger cars rollovers and 3,862 fatalities occurred in LTV rollovers. (The FARS is a census of all motor vehicle crashes resulting in at least one fatality. Since it is a census, it is not subject to sampling error, but nonsampling errors can occur. A discussion of the FARS quality control procedures used to control these errors can be found in the 1989 Fatal Accident Reporting System Report.)

The number of LTV fatalities, including rollover fatalities, from 1985 through 1989 was 6763, 7274, 7875, 8214 and 8350, an increase over the period of about 23 percent. Over that period, the number of rollover fatalities in LTVs was 2995, 3387, 3658, 3815 and 3862, an increase of about 29 percent. During this period, the number of LTVs on the road increased about 30 percent. Thus, although the rate of total fatalities in LTVs (fatalities per registered vehicle) actually decreased by 5.5 percent from 1985 to 1989, the rate of rollover fatalities in LTVs decreased by only 1.5 percent. The rollover fatality rate is discussed in detail in the preliminary regulatory evaluation for this notice (see, *e.g.*, p. 55 of the evaluation), which the agency has placed in the docket. From 1985 to 1989, the rate of fatalities per registered vehicle in rollover accidents involving passenger cars increased over 3 percent, while the fatality rate for all crashes involving passenger cars remined constant. ("Safety Programs for Light Trucks and Sport Utility Vehicles," 1990, U.S. Department of Transportation, as supplemented with data for 1989.)

The rollover problem is generally more serious for the LTV, and in particular, the SUV portion of the light vehicle group. State accident data (North Carolina for 1984 and 1985) indicate that although the involvement rate (involvements per registered vehicle) for LTVs in all types of collisions is only 68 percent that of cars, their involvement rate in accidents involving rollover is 127 percent that of cars. SUV's are also more dangerous for their occupants after a rollover accident has occurred. The incapacitating injury rate per involved occupant is 27.6 percent higher for SUV's than it is for the average light duty vehicle.

B. Previous Agency Rulemaking Actions

In 1973, the agency issued an ANPRM on Rollover Resistance (Docket 73–10; Notice 1.) The ANPRM was primarily directed toward obtaining comments on the development of a test procedure, test conditions and performance requirements to evalate "vehicle rollover tendencies on smooth, dry pavement." After reviewing the comments to that notice and conducting several research studies related to vehicle control and stability, the agency decided to discontinue activity in this area. One study titled "Development of Vehicle Rollover Maneuver", concluded that although a vehicle's rollover resistance is dependent on its "stability factor" (defined as a vehicle's half-track width divided by the vehicle's center of gravity height) "to the first order," that resistance to rollover "can, however, be degraded by other design and operational features under real-life performance conditions." At that time, the agency decided that until the influence of those other factors on real world accidents was better understood, agency action could not be justified.

In December 1987, NHTSA denied a rulemaking petition from then Congressman Timothy E. Wirth (now Senator Wirth) that requested NHTSA to require that the "stability factor" of light duty vehicles exceed a specified minimum value. (52 FR 49033; December 29, 1987.) The stability factor, also referred to as the "static stability factor," represents an approximation, assuming that the vehicle is a rigid body, of the steady state lateral acceleration at which a vehicle would roll over. In other words, if the vehicle were a rigid body, the vehicle's stability factor would be a rather direct representation of the vehicle's ability to resist lateral overturning forces.

Senator Wirth based his request on the findings of a report by L.S. Robertson and A.B. Kelley titled "The

Role of Statility In Rollover-Initiated Fatal Motor Vehicle Crashes Under On-Road Driving Conditions." That report found one group of high stability factor vehicles (all of which were passenger cars) with low rollover per single vehicle accident rates, and another group of low stability factor vehicles (all of which were sport utility vehicles) with high rollover per single vehicle accident rates. The petitioner believed that the report indicated that there is some specific value of stability factor above which vehicles are "safe" and below which they are "unsafe." The petitioner suggested 1.20 as that value.

NHTSA denied the petition because the agency determined that establishing a minimum stability factor value would neither adequately encompass the causes of vehicle rollover nor satisfactorily ameliorate the problem. The agency determined that the stability factor is a good predictor of rollover involvement if it is applied to a subsample of particular, individual vehicles, each of which has already been involved in a single vehicle accident, and used to predict which of them rolled over in the crash. However, NHTSA determined that the stability factor is not nearly as effective in predicting rollover involvement when it is applied to a sample of vehicles, none of which has been involved in an accident, and used to predict which of them will become involved in a rollover accident. The reason for the lower predictive capability in the second instance is that the factor does not take into account the influence of vehicle control and stability factors related to the causation of the single vehicle loss of control situation that precedes the vast majority of rollovers. Such factors not only affect the likelihood of an SVA occurring due to a loss of control, but can alter the pre-crash dynamics of the vehicle (e.g., the vehicle's spinning or sliding sideways as it leaves the roadway) that influence the likelihood of subsequent rollover. The lower predictive capability gave the agency concern whether the application of the factor would adequately separate the vehicles which needed change from those which did not. Therefore, the agency decided to defer consideration of rulemaking on vehicle rollover characteristics until the agency completed its comprehensive research program on vehicle stability and rollover.

In September 1988, NHTSA granted a petition for rulemaking from the Consumers Union requesting the establishment of "a minimum stability standard to protect against unreasonable risk of rollover." NHTSA granted the petition because the agency was already undertaking research into rollover safety of light duty vehicles and the petition was consistent with the agency's steps to address the rollover problem.

C. Previous Analyses of Rollover Crashes

Through the years, the agency and other researchers analyzed accident data to qualify the relationship between rollover involvement and factors relating to the vehicle, driver and environment. Understanding the relaltionship is important for purposes of ameliorating the rollover problem, since safety countermeasures can be developed for the vehicle, driver and environment to reduce the likelihood of rollover.

Various accident condition variable have been shown to exhibit a relationship with rollover rates. These include pre-crash stability (skidding or spinning), vehicle pre-crash condition (skid sideways or spin) and skid type (rear whell lateral or four wheel lateral). In addition, various driver and environment-related accident variable also have been shown to influence the likelihood of rollover. These include driver age, alcohol involvement, driver error, rural versus urban roadway, day versus night, the roadway speed limit, the rollover's occurring on or off the roadway, and accident occurring where the roadway was straight or curved.

Researchers have reported correlations between certain vehicle characteristics, or metrics, and various measures of rollover accident involvement. One that has received considerable attention is the static stability factor, discussed previously, which has been shown to have a significant correlation with the rate of rollovers in single vehicle accidents. Another is wheelbase.

1. Static Stability Factor

In 1986, Harwin and Brewer found, in their analysis of state accident data, that the static stability factor statistically explained much of the difference in the rollover rate (computed as the number of rollovers per SVA (RO/SVA)) between different vehicle make/models. (Harwin, E. Anna and Brewer, Howell K., "Analysis of the Relationship Between Vehicle Rollover Stability and Rollover Risk Using the NHTSA CARDfile Accident Database," 1989.) The data was from NHTSA's CARDfile (Crash Avoidance Research Data file), which is a database constructed from police accident reports from several states.

The database included accident data for a series of forty vehicle make/models (some of which were different "nameplate" versions of the same vehicle mode, e.g., Chevrolet Citation and Oldsmobile Omega) which represented nineteen unique passenger car models, including both foreign and domestic models, and eight utility vehicle models. The vehicles in their sample were selected to cover the range of stability factors from small utility vehicles to large domestic passenger cars. However, similar to the previously metioned Robertson and Kelley study, the vehicle sample did not include any vans or pickup trucks. Harwin and Brewer examined various vehicle data, including wheelbase (L), center of gravity height (H), half track width (T/2) and the static stability factor (T/2H).

The data regression of the CARDfile data between the static stability factor and the percent of rollovers in SVA's showed a strong correlation, with R^2 values ranging between 0.57 and 0.86. Unlike Robertson and Kelley, who found two clusters of vehicles (one of which appeared "safe" while the other appeared "unsafe"), Harwin and Brewer found a generally linear distribution of rollovers per SVA's over a wide range of stability factors, with no obvious delineation of "safe" or "unsafe" vehicles.

Harwin and Brewer improved on earlier research by conduting a stepwise multivariate regression analysis of the Maryalnd and Texas state accident data to control for differences in driver and vehicle use. They showed improved R^2 values for the combination file of Maryland and Texas, as well as the Maryland file only. In their final stop, the R^2 value was 0.92 for the Texas and Maryland date combined, with static stability factor, percent drivers under 25, and percent male drivers included in the regression model.

Mengert, Salvatore, DiSario, and Walter re-analyzed the Harwin and Brewer data using logistic regression techniques. ("Statistical Estimation of Rollover Risk," August 1989, DOT-HS-807-446.) This process considers the likelihood of rollover at the accident level rather than at the make/model level as was done in the Harwin/Brewer report. This allows each accident to be treated as a data point (rather than using the summary information from each vehicle make/model as a data point).

The database included over 39,000 single vehicle accidents of which 4,910 were rollover accidents. Several models were developed to relate vehicle metrics and accident conditions. Analysis was

conducted at both the accident level and make/model level. At the accident level, the ability of the models to predict rollover versus nonrollover was found to be dependent on the static stability factor and where the accident occurred, urban or rural. The models were used to predict rollover rates at the make/model level. The index of agreement (R^2) exceeded 0.9 when static stability factor was included in the regression, but dropped to approximately 0.5 when static stability factor was removed from the analysis. Mengert's plots of the actual versus predicted rollover rate using his 11-factor model showed strong statistical relationships between rollover rate and static stability factor.

2. Wheelbase

NHTSA found significant correlations between rollover accident involvement rates and vehicle wheelbase when the agency analyzed accident data for purposes of evaluating the rulemaking petition from Senator Wirth. ("Technical Evaluation of Rulemaking Petition," Docket No. PRM–MP–004–013.") In addition, Malliaris found that reducing wheelbase at a fixed vehicle weight leads to a very significant increase in fatal rollover accident involvement, while reducing the vehicle weight at a fixed wheelbase leads to a very signficant reduction in fatal rollover accident involvement. ("Discerning the State of Crash Avoidance in the Accident Experience," Proceeding of the 10th International Technical Conference on Experimental Safety Vehicles, July 1985.)

Unlike the static stability factor, whose correlation with rollover accident involvement rate "makes sense" (vehicles with low stability factors generally can be described as tall and narrow), the correlation with wheelbase does not have the same intuitive relationship with a vehicle's rollover propensity. Several possible explanations have been put forth to explain this wheelbase-to-rollover accident involvement correlation. For example, the relationship might be due to a correlation of wheelbase with vehicle pre-crash stability, pre-crash condition and/or skid type mentioned above. In other words, wheelbase might be acting as a surrogate for vehicle stability characteristics, and actually the correlation that results is between wheelbase and vehicle loss of stability preceding the rollover.

3. *Other Vehicle Factors*

The stability condition under which a vehicle leaves the road in a single vehicle crash can significantly influence the likelihood that the single vehicle accident will result in a rollover. Malliaris found that vehicles that left the roadway either sliding sideways or spinning were far more likely to roll over in a single vehicle crash. This influence was found for all sizes of passenger cars, as well as light trucks. (Malliaris, Nicholson, Hedlund and Scheiner, "Problems in Crash Avoidance and Crash Avoidance Research " SAE Paper No. 830560, February 1983.) Although that study did not attempt to determine specific vehicle characteristics that result in such pre-crash vehicle conditions, it is obvious that a vehicle's directional control and stability properties would influence the likelihood of a vehicle's sliding sideways or spinning while leaving the roadway, and thus, would influence a vehicle's overall rollover propensity.

III. Current Program

In view of the apparent effect that vehicle factors have on a vehicle's propensity to roll, NHTSA sought to improve its understanding of the vehicle factors. NHTSA examined correlations between various vehicle metrics and rollover accident rates, and increased the number and diversity of the vehicles examined. NHTSA's technical paper for this ANPRM provides a full discussion of the methodology and results of the agency's research program. The methods and results of the study are briefly described in the following sections.

Rollover crashes are the result of both vehicle characteristics related to a vehicle's rollover stability and vehicle metrics related to a vehicle's directional control and stability. In some cases, some of the vehicle metrics related to one type of stability may be covariant with metrics related to the other, leading to a synergistic effect on a vehicle's overall rollover accident involvement. In other cases, the metrics related to these two types of stability may not have any correlation with one another or may even be inversely related. As such, the agency believes that identifying a single metric related to a vehicle's rollover stability would not lead to the elimination of all or even a majority of rollover crashes. However, a requirement based on a single rollover stability metric could lead to the elimination of a portion of them. As discussed later in this notice and in the technical paper, this belief has been borne out by the accident data. A rollover standard based on a single metric might be a minimum performance standard with broad applicability for vehicles (e.g., a tilt table angle minimum, such as that proposed by the UK for an ECE standard), or it could be a standard that encompasses vehicle crashworthiness requirements (e.g., vehicle with less than a minimum tilt table value must be equipped with extra crash protective devices). At the same time, the agency is also aware of the possibility that requirements based on multiple vehicle metrics may prove to be a better basis for a rollover prevention standard. NHTSA is considering a range of possible rulemaking approaches. The range of possible regulatory requirements resulting from the agency's program is discussed in the section titled, "Rulemaking Alternatives."

A. Summary of Methodology

Briefly stated, NHTSA's goal for the program was to identify the level of correlation between each vehicle metric chosen for study and rollover crashes. To do this, NHTSA selected a vehicle sample (from which the various metrics could be obtained), identified and measured the metrics, generated the accident data base, and performed the analyses (logistic regression and linear regression) that examined the degree of correlation between the vehicle metrics and accident rate measures of vehicle rollover propensity, as evidenced by the normalized accident data. These analyses also included vehicle use factors related to the driver and the accident environment (i.e., driver's age, driver's alcohol use, male or female driver, rural or urban accident location, road surface condition and the single vehicle accident involvement rate), to account for their influence on rollover accident involvement.

Initially, NHTSA performed linear regression analyses using a data file that consisted of the combined accident data from these five states: Georgia (1987–1988), Maryland (1986–1988), Michigan (1986–1988), New Mexico (1986–1988) and Utah (1986–1988). These preliminary analyses were used to complement the later, more detailed analyses that used logistic regression techniques. Due to differences in the data coding formats and reporting thresholds of the various states, these logistic regression analyses were applied to only one state file at a time.

The initial logistic regression analyses were performed using data from each of the five states and later, more detailed logistic regression models were examined using only the Michigan data. These state-to-state difference were not as significant in the preliminary linear regression analyses. The Michigan data were chosen for these more complex analyses because that State had the largest sample size.

1. Selected Vehicles

The population of vehicles that were initially identified for inclusion in the sample was chosen with the goal of encompassing all classes of light vehicles, i.e. all ranges of passenger cars; small and large pickup trucks; mini and full size vans; and open, small, and large utility vehicles. NHTSA identified 60 vehicles, which encompassed the entire range of market class designations, usage classifications, and size classes. For each of the classifications, NHTSA sought to obtain: (1) A set representative of the full spectrum of rollover rates (the selected vehicles encompassed the lowest to the highest rollover to SVA rates); and (2) a set representative of the full spectrum of vehicle characteristics (the selections included the complete range of vehicles from low slung sports cars and full size sedans to tall and narrow utility vehicles with short, medium and long wheelbases).

After the initial selection of the vehicle population, NHTSA evaluated Maryland SVA and single vehicle rollover accident data from the CARDfile accident data base for 1986 through 1988 to determine whether including the selected vehicle in the actual sample would yield useful data. Each vehicle that met at least one of the following criteria were retained for the actual sample from the initial population: Model years 1981 or later (model years previous to 1981 did not have a standardized vehicle identification number (VIN) scheme); adequate data available (minimum number of observations was 20); vehicles with high rollover propensity (the rollover rate of the vehicle relative to the rest of the sample population); high current sales volumes (vehicles which represent a large or growing segment of the new vehicle fleet); high registration populations (vehicles well represented in the on-road vehicle fleet); and vehicles previously tested (vehicles for which dependable sidepull or other measurement data exist, or is planned to be measured in ongoing programs, and which could be used for comparison purposes with data collected).

Forty-five of the original 60 vehicles met the criteria and were selected for inclusion in the evaluation sample. Eleven other vehicles were also included in the sample to expand the range of vehicle types, such as several short wheelbase front and rear wheel drive subcompact passenger cars, a European sport sedan, large utility vehicle, and a shorter wheelbase version of a vehicle included from the original list. To confirm that the vehicles selected for the evaluation sample were representative of vehicles in their respective size/market/usage class, the agency compared accident data for "like" vehicles in each of the respective classes.

2. Identifying and Measuring the Metrics

NHTSA chose a number of vehicle metrics to include in the study. These metrics have been identified by various researchers as playing a significant role in vehicle rollover propensity. The metrics included: Static stability factor; tilt table ratio; side pull ratio; wheelbase; critical sliding velocity; a "rollover prevention metric"; a "braking stability metric"; and percent of total vehicle weight on the rear axle. A description of the metrics is provided below.

a. *Center of gravity measurement.* This measurement is needed to calculate the static stability factor and to determine the test condition for the side pull ratio test. The longitudinal and lateral location of the vehicle's center of gravity (cg) were determined using the individual wheel weights along with their associated geometry. The vertical cg height (for the total vehicle with one occupant) was determined either by tilting the vehicle to a known angle and measuring the resultant weight distribution or by applying a known torque to the vehicle and measuring the resultant tilt angle and motion of the vehicle's sprung mass. In either case, the vehicle was tilted about its lateral axis.

b. *Static stability factor.* The static stability factor is the average half track width divided by vertical cg height. The front and rear track widths were determined, averaged together and divided by two to determine the average half track width.

c. *Tilt table ratio.* Tilt table data are obtained from placing the vehicle on a table which is then tilted about an axis parallel to the vehicle's longitudinal axis. The vehicle is placed on the table with the tires on one side against a low curb. The side of the table on the far side from the curb is then slowly lifted while the role angle of the table is measured. The tilt table angle is the platform roll angle at which both tires first lift off of the table on the high side. The point of wheel lift is determined using a contact switch to detect when the wheels lose contact with the platform. The tilt table ratio is determined as the tangent of the tilt table angle.

d. *Side pull ratio.* Side pull ratio is determined as the ratio of the lateral force acting through the vehicle cg required to lift the opposite side tires off the ground divided by the vehicle weight. The test is performed using wide straps and, in some cases, chains, to apply the pull force to the vehicle body. Extreme care needs to be taken to ensure that the pull force vector passes through the vehicle vertical cg at all times, the force is maintained horizontally to the ground, and adjustments to the pulling mechanism are made as the vehicle rolls on its suspension and deflects laterally and vertically, causing the vertical and horizontal location of the cg to change.

e. *Wheelbase.* This vehicle parameter was used since it is a basic factor in determining a vehicle's dynamic transient directional stability. It should be noted that if one were comparing the directional stability characteristics of two vehicles, the vehicle with the shorter wheelbase (which based on wheelbase alone would be likely to have a lower level of directional stability) could, by virtue of other vehicle characteristics (e.g., suspension and tire characteristics) have a higher level of directional stability. Although there are a multitude of other factors which influence, and could easily compensate for the contribution of wheelbase to vehicle directional stability, if all other vehicle features and characteristics are equal, a vehicle with a longer wheelbase will exhibit greater directional stability.

f. *Critical sliding velocity.* This metric is a measure of the minimum lateral velocity required to initiate rollover when the vehicle is tripped by a low curb. It is determined by equating the vehicle energy prior to the tripped impact with the energy needed to raise the vehicle cg to the point where it is just above the pivot point about which the vehicle is rotating.

g. *Rollover prevention metric.* This metric is determined by computing the difference between the vehicle's lateral translational kinetic energy before being tripped and its rotational kinetic energy after being tripped. This quantity is then normalized by multiplying it by 100 and dividing it by the initial lateral translational kinetic energy.

h. *Braking stability metric.* This metric is defined as the longitudinal distance from the vehicle's front wheel to the total vehicle center of gravity (A) divided by the height of the total vehicle center of gravity (h_{cg}) or A/H_{cg}. It represents the level of longitudinal (braking) deceleration at which the vehicle's rear wheels would lift off the roadway.

i. *Percent of total vehicle weight on rear axle.* Percent of total vehicle weight is determined by dividing the longitudinal distance from the vehicle's total center of gravity to the front

wheels by the wheelbase. At the limits of a vehicle's control capabilities, the vehicle's steady state directional stability is heavily influenced by its weight distribution and by the relative friction characteristics of its front and rear tires. As with the effect of wheelbase on transient directional stability, there are vehicle factors other than weight distribution that can also influence steady state directional stability, and in the case of comparisons of one vehicle to another, can compensate for differences in weight distribution. However, in the case of steady state directional stability, weight distribution and tire characteristics are the predominant determining factors. Vehicles with a higher percentage of their total weight on the rear wheels will tend to have a lower level of steady state directional stability.

NHTSA tested vehicles at two facilities, the Vehicle Research and Test Center (VRTC) and Systems Technology Incorporated (STI). In all, vehicle measurements were obtained for 56 different make/models.

B. Accident Databases

NHTSA maintains a collection of state accident data files for 26 States, each of which provide their tapes annually. Data from five of the State files were used for the study. Those States were: Georgia (1987–1988), Maryland (1986–1988), Michigan (1986–1988), New Mexico (1986–1988) and Utah (1986–1988). These States were selected based on the ability to identify specific vehicles according to their Vehicle Identification Number (VIN): i.e., these five States consistently and accurately report a high proportion of VINs for those vehicles involved in accidents.

The agency obtained data for single vehicle accidents (SVA's) from the State files. An SVA was defined as all overturns, collisions with a parked vehicle or other fixed object, and noncollision accidents. SVA's do not include collisions with pedestrians, other vehicles on the roadway, bicycles, trains or animals.

NHTSA examined the data from each of the SVA's to determine if the accident involved a primary-event rollover. A primary-event rollover was defined as any accident in which the most harmful event was a rollover, and did not include any accident in which a rollover followed a significant collision with an object. For Utah, this category also included reports for accidents in which the first event was described as "run off the road" and the second event was a rollover. For Maryland, this category also included those reports in which the first event was a collision with a ditch, berm or culvert followed by a vehicle rollover.

C. Summary of Results

Readers are referred to the technical analysis for this notice for a detailed discussion of the statistical analyses of the relationship between the vehicle metrics and the accident data. As discussed in that paper, the statistical analyses showed very significant correlations with the rollovers per single vehicle accident rate (RO/SVA) of light duty vehicles for tilt table, static stability factor and sidepull. Tilt table and static stability factor consistently showed the higher levels of correlation.

NHTSA performed analyses of the Michigan data using a logistic regression model that included a number of variables related to influential driver and roadway/environmental factors, as well as each of the vehicle rollover stability metrics taken one at a time. The results of those analyses were used to calculate a predicted RO/SVA rate for various vehicle make/models. The index of agreement (analogous to R^2 at the make/model level) for the actual RO/SVA rate versus predicted RO/SVA rate produced values of 0.65 for the model using the tilt table ratio, 0.66 for the static stability factor model, and 0.58 for the side pull ratio model.

The logistic regression model that resulted in the highest level of statistical correlation included the tilt table ratio and variables representing the vehicle's make/model's single vehicle accident per registered vehicle rate and the vehicle make/model's vehicle class (e.g., sport utility vehicle, pickup truck, van or passenger car) and drive configuration (e.g., front wheel drive, rear wheel drive or four-wheel drive), as well as driver and accident location demographics. The index of agreement of the results of that logistic regression model produced a make/model R^2 value of 0.80. The reasons for the large improvement in the model's correlation with the inclusion of the single vehicle accident per registered vehicle rate and the vehicle class variables are currently under further study. This effect may be related to driver and vehicle influences that are not accounted for by the driver and vehicle variables that have been included in the analyses to date, or may be related to vehicle control and stability characteristics. This hypothesis is supported by the "stability condition" found by Malliaris that was discussed earlier. Also, results from both logistic regression analyses and Chi-square population comparisons found that the presence of antilock brakes on vehicles was significantly correlated with a lower RO/SVA rate.

The agency believes the tilt table ratio has advantages over the static stability factor and side pull ratio that may warrant its selection. Those advantages relate to the ability to precisely measure the metric and to the ability to vary vehicle design to affect the metric.

The procedure for determining the tilt table ratio (i.e., the tangent of the angle of the tilt) is simple to conduct, and yields repeatable and reproducible results. Unlike the static stability factor and side pull ratio, the determination of the tilt table ratio does not rely on center of gravity height measurements, which are difficult to obtain, and which can introduce variability in measurements. (Winkler, C.B., "Center of Gravity Height: A Round-Robin Measurement Program," University of Michigan Transportation Research Institute, January 1991.) In addition, unlike the side pull test, the tilt table test has the advantage of not damaging vehicle body work, which keeps costs to a minimum.

The use of the tilt ratio as the basis for a rollover stability requirement also allows manufacturers to vary a vehicle's performance in relation to such a requirement in ways that are readily achievable. A manufacturer could increase a vehicle's tilt table ratio value (i.e., improve the vehicle's rollover stability) by varying the vehicle's suspension characteristics. With the static stability factor, changes in the respective values would most likely entail substantial changes in vehicles' size, ground clearance and roof structure, which are features that may be important to the purpose for which the vehicle was designed.

Aside from the advantages of the tilt table ratio described above, the agency was concerned that the other two metrics might be fundamentally deficient for NHTSA's purposes for other reasons. The static stability factor assumes that a vehicle is a rigid body with no tire or suspension deflections or motions. Since vehicles are not rigid, the vehicle's tire and suspension deflections and suspension kinematics affect the vehicle's cg relative to the vehicle's tires (where the forces that initiate a vehicle rollover are generated). These motions change both the cg height (above the ground) and the lateral distance between the cg and the tires on the outside of the turn. The static stability factor does not account for the change in the cg's position.

Although the side pull ratio takes into account the motions of the vehicle's sprung mass (the body and chassis less the suspension and tires) relative to tire contact area, the side pull ratio appears

less desirable than the tilt table ratio because the side pull test is very complex and requires an extraordinary amount of equipment. The test is performed using wide straps or chains to apply the pull force to the vehicle body. Extreme care needs to be taken to assure that the pull force vector passes through the vehicle's vertical cg, and is maintained horizontally to the ground. Adjustments to the pulling mechanism must be made as the vehicle rolls on its suspension and deflects laterally and vertically. The complexity in setting up and conducting the test can lead to errors and inconsistencies in the data. To date, all of the vehicle rollover metrics that are measures of a vehicle's rollover stability and that show correlations with a vehicle's rollover propensity, the tilt table ratio appears to be the most promising for regulatory purposes.

IV. Rulemaking Alternatives

NHTSA is considering a range of possible rulemaking approaches to developing a proposal to reduce rollover injuries and fatalities. The possible approaches include a crash avoidance rulemaking proposal that vehicles which did not meet a specific performance measurement (e.g., a minimum tilt table ratio) either could not be manufactured, or would have to have safety devices or features to improve the vehicle's directional stability characteristics (e.g., antilock brakes), and/or crashworthiness (e.g., improved roof strength).

A crash avoidance standard that would require a minimum level of vehicle rollover stability would produce a safety benefit by reducing the numbers of rollovers in single vehicle accidents involving light duty vehicles. This type of standard may also have substantial costs for manufacturers and consumers, and may have the greatest effect on the availability of vehicles from which consumers may choose. A standard of this type has been proposed by the United Kingdom (U.K.) to the "Meeting of Experts on Brakes and Running Gear" (GRRF) of the Economic Commission for Europe (ECE). The proposal suggests using the tilt table test, with a minimum required tilt angle of 40 degrees (equivalent to a tilt table ratio of 0.839) for vehicles in both an "unladen" (drive only load) and "laden" (GVWR load) condition, as a requirement for the rollover stability of all light duty vehicles.

NHTSA is currently conducting tests at several load conditions, including the one passenger and full passenger complement, and two versions of the GVWR load condition (including the "laden condition" specified in the ECE proposal) to examine the effect of load conditions on the relative ranking of different vehicles.

As already noted, a safety standard having a crash avoidance thrust might require specific equipment, such as antilock brakes (should they be shown to reduce the incidence of rollovers), on vehicles having a low tilt table value. The results of a logistic regression analysis of the Michigan accident data file, and those of the linear regression analysis of the combined 5-State accident data file, indicate that the presence of antilock brakes was statistically significant and would predict a lower rollover accident rate for vehicles equipped with antilock brakes. Also, data were available for accidents involving four vehicle make/models that had subgroup populations in which some vehicles were equipped with antilock brakes and some were not. When the subgroups of each of these make/model populations were compared using Chi-square analyses, two of the four comparisons indicated that the lower rollover rate for the antilock equipped vehicles was statistically significant, alpha = 0.05. NHTSA specifically requests comments on the effectiveness of antilock brakes in reducing the propensity of a vehicle to become involved in those situations (e.g., sliding sideways) in which the likelihood of a vehicle's rolling over is increased.

The agency is also considering requirements to improve occupant protection in rollovers. These requirements might be applied to all vehicles or only those with a "low" (i.e., below a specified value for one of the metrics previously discussed) level of rollover stability. The added protection may take the form of means to increase belt usage, different types of restraints (e.g., four point harnesses), improved roof strength, or interior padding. These actions may be taken either in conjunction with, or in lieu of, a crash avoidance rulemaking and comments are sought on this issue.

NHTSA is also considering a market-based option of a consumer information regulation under which the manufacturers would be required to measure certain metrics for their vehicles and report them to prospective purchasers. The number of rollovers might be reduced if consumers better understand the risk of rollover associated with different vehicle types and models. A regulation that is geared toward informing consumers of a vehicle's rollover propensity might require manufacturers to measure the rollover stability of their vehicles, using a metric such as the tilt table ratio, and to provide that information to the consumer. Information would also be provided to the consumer on the relative risk of rollover for a vehicle having a rollover stability value in a particular range. NHTSA requests comments on the desirability of such a requirement.

V. Issues

This section discusses a range of issues that NHTSA is considering in deciding whether to issue a proposal relating to vehicle stability and rollover induced injuries. The issues are grouped according to the following subject areas: (1) The appropriateness of a vehicle metric (particularly the tilt table ratio) as the basis for regulatory action; (2) the extent to which factors relating to vehicle use and directional control and stability confound an analysis of vehicle rollover involvement; (3) potential countermeasures that might reduce injuries and fatalities in rollover crashes; and (4) potential costs and benefits. For easy reference, the agency has consecutively numbered its questions. In responding to a particular question, NHTSA requests that commenters refer to the question by number, and provide any relevant factual information to support their conclusions or opinions, including but not limited to statistical data and estimated costs and benefits, and the source of such information.

NHTSA emphasizes that this is an advance notice of proposed rulemaking. If the agency were ultimately to isuse a final rule, it would do so only after first issuing a notice of proposed rulemaking providing further opportunity to comment.

A. Vehicle Metrics

1. What is your general opinion for the various rollover metrics NHTSA evaluated for this ANPRM? What are the strong points and weak points for each of the metrics? Which of these metrics do you think NHTSA should use to develop a proposed rollover stability standard?

2. Are there any accident data analyses that have investigated whether vehicle rollover stability metrics or other vehicle metrics influence the overall accident involvement of vehicles, as measured by rollovers per registered vehicle (RO/RV), single vehicle accidents per registered vehicle (SVA/RV), rollovers per vehicle miles traveled (RO/VMT) or single vehicle accidents per vehicle miles traveled (SVA/VMT)?

3. Will further research and testing be needed to accurately quantify the

rollover metrics for various vehicles? If so, what types of research and testing are needed, and why?

B. Vehicle Use

4. Several previous studies, including "Rollovers in Motor Vehicle Accidents," (Malliaris), indicate that the correlations between rollover involvement rates and a driver's age, gender and the involvement of alcohol vary significantly when these factors are examined independently, versus when the variables are combined. For example, Milliaris found that although females in general have lower rollover accident rates than males, "sober" (i.e., no alcohol involvement in the accident) females over the age of 35 had significantly higher rollover rates than "sober" males in the same age range, particularly when they were driving LTV's. However, there was no significant difference between the rollover accident rates for females versus males over the age of 35 if alcohol was involved in the accident. These findings pose several questions. What is the most appropriate "model" to represent these factors in trying to account for driver influences? What is the best method of considering the effect of alcohol use on single vehicle accidents and rollovers? What vehicle factors may be related to the significantly higher rollover accident rates for the over 35 females, particulary when they are driving LTV's?

5. Logistic regression results have indicated a significant correlation between the probability of rollover in a single vehicle crash and the SVA/RV rate for vehicle make/models. This could obviously be related to vehicle factors, but it is also possible that it is related to the risk-taking behavior or other characteristics of the driver of particular make/models.

What driver characteristic(s) that can influence the SVA/RV rate of vehicle make/models might explain a portion of the correlation found between the RO/SVA rate and SVA/RV rate for vehicle make/models? How could their influence be evaluated?

6. Logistic regression results have indicated a significant correlation between the probability of rollover in a single vehicle accident and vehicle class and drive configuration (e.g., front wheel drive, rear wheel drive, or four wheel drive). As with the SVA/RV rate correlation discussed in the previous item, this could be related to vehicle factors that are influenced by design features that are peculiar to the vehicle make/model's class and/or drive configuration, but also may be related to driver and/or vehicle use factors that result from the kinds of drivers that purchase and use vehicles in certain vehicle classes and the kinds of trips on which the vehicles in certain vehicle classes are driven.

What driver characteristics, related to the class of vehicle that the drivers purchase and use, might explain a portion of the correlation found between the RO/RVA rate and the vehicle class and drive configuration of particular vehicle make/models? How could their influence be evaluated?

7. Are there any new findings regarding the relationships between roadside features encountered in a rollover crash and rollover accident involvement?

8. Are there any relationships between environmental factors, such as urban versus rural accident location in a rollover crash and overall accident involvement, measured by rollovers per registered vehicle (RO/RV), SVA/RV, RO/VMT or SVA/VMT accident rates?

9. Later in 1991, when the final data from the Federal Highway Administration's 1990 Nation Wide Personal Transportation Study (NPTS) are available, NHTSA intends to conduct statistical analyses of rollover accidents and single vehicle accidents per vehicle mile travelled (VMT). It may be possible to obtain from the NPTS data estimates of VMT by vehicle make/model or by vehicle class/subclass.

What information is available with regard to the risk of involvement in SVA's and/or rollover accidents, measured by accidents per vehicle mile travelled, for different kinds of drivers, on different kinds of trips, in different classes/subclasses of vehicles? If no such information is available, how could the influence of driver and vehicle usage factors best be evaluated using VMT data?

10. The above discussion in question number nine refers to the possible availability of VMT data by vehicle make/model. If the NPTS data are not sufficient to provide this level of detail for a sufficient number of vehicle make/models to allow a more thorough analysis of the influences of driver characteristics and vehicle usage patterns, the agency seeks other means to conduct such analyses. One possible avenue would be the acquisition of information from insurance companies on the characteristics of the drivers of the vehicles insured by their companies, e.g., driver age, male or female driver, estimated miles driven per year and other usage information (e.g., whether vehicle is used to commute to work and miles driven while commuting). If it would be possible to acquire such information on a large enough portion of the vehicle population for a state whose accident data were being examined by the agency, it would be possible to use the logistic regression techniques discussed earlier to gain a better understanding of the influences of driver and vehicle use characteristics on accident causation. Would insurance companies be willing to provide basic summaries of such information by vehicle make/model?

C. Countermeasures

11. What crashworthiness criteria would be the most effective in preventing occupant injury given a rollover accident occurs? NHTSA is considering criteria which would reduce the number of ejections in an effort to reduce the number of injuries. What is your opinion on the relative effectiveness of the following types of ejection reduction actions: improved occupant restraints, improved belt warning devices, roll bars or cages, better latches and hinges for doors and hatches, stronger roof strength, and improved glazing? Are there any data to support any of these measures over the others, and, if so, what does you data indicate?

12. How would installing roll protection equipment affect vehicle roll stability? What is the effect on cg height when a roll cage is added to a light weight open utility vehicle? How can vehicle crashworthiness and rollover stability both be improved?

13. What type of standard is preferred? Please supply comment on the pros and cons of each type as well as any safety data which exist to support your conclusion.

14. Logistic regression and Chi-square population comparison results have indicated a significant correlation between a reduction in the probability of rollover in a single vehicle accident and the presence of antilock brakes on particular vehicle make/models. What information is available on the likely reason for that correlation and what information is available on the correlation between the likelihood of involvement in a single vehicle accident and the presence of antilock brakes?

With regard to the correlations between the possibility of rollover in a single vehicle accident and the single vehicle accident per registered vehicle rate for vehicle make/models (see question five), it has been hypothesized that these correlations may involve the influence of vehicle directional control and stability characteristics on a vehicle's single vehicle accident and rollover accident involvement. What

information is available with regard to the influence of vehicle directional control and stability characteristics on a vehicle's rollover and/or single vehicle accident involvement?

15. Would changes to the chassis and suspension of a vehicle to improve its rollover stability have an impact on the vehicle's directional control and stability characteristics? Would such changes be more likely to improve or degrade those directional control and stability characteristics? Could changes be made that would improve a vehicle's rollover stability but have no impact on the vehicle's directional control and stability characteristics?

D. Costs and Benefits

16. As discussed in question six, logistic regression results indicate a significant correlation between a vehicle make/model's probability of rollover in a single vehicle accident and the vehicle class and drive configuration of that vehicle make/model. Given this correlation, what classes or subclasses of vehicles should be covered by a rollover standard? Why do some classes or subclasses of vehicles, such as vans, have a relatively low RO/SVA rate? Should any class or subclass of vehicle, such as vans, be excluded from a rollover standard? Should a class or subclass of vehicle, such as open utility vehicles which have a high ejection potential, be subjected to a different rollover stability performance threshold than that which would apply to a class of vehicle with a relatively low rollover rate, such as vans? If certain classes of vehicles are to be excluded or subjected to a different rollover threshold, how should the vehicle classes be defined?

17. What specific costs might be associated with each of the potential rulemaking options? For the rollover crash avoidance rulemaking action, could vehicle designs be changed to meet the standard or would particular make/models need to be eliminated from the current manufacturer's fleet, and if so, please provide specific make models and an engineering reason for the decision?

18. What effect would each of the rulemaking alternatives have on vehicle alterers and final stage manufacturers? How would an FMVSS on vehicle stability affect motor vehicle manufacturers, dealers, distributors and repair businesses who modify the suspension and cg of new and used vehicles? The agency is particularly interested in information on general rulemaking alternatives that could have the most and least impacts on those businesses.

VI. Potential Regulatory Impacts

NHTSA has considered the potential benefits and burdens associated with the possible rulemaking alternatives discussed above. This advance notice is a "significant" rulemaking action under the Department of Transportation's regulatory policies and procedures. The advance notice concerns a matter in which there is substantial public interest, and there is potential that a rule resulting from this ANPRM might have a substantial impact on a major transportation safety problem. The preliminary regulatory evaluation (PRE) for this notice discusses the potential impacts of this regulatory action and identifies some areas where substantial benefits might be realized. However, because the affected vehicle population is not defined at this stage in the rulemaking, the agency is unable at this time to quantify the benefits and estimate the cost impact of the various rulemaking alternatives. Further, the impacts of the action can only be estimated when it is determined which of the various alternatives will be chosen as the basis for a rule. That information is yet unknown.

The PRE provides some preliminary cost estimates for equipping vehicles with antilock brakes, which is one of the rulemaking alternatives under consideration. NHTSA's data (which is several years old) on the cost range for a four wheel antilock system for light duty vehicles is from $375 to $570. The agency does not have data on the cost of a two wheel, rear wheel only, antilock system. NHTSA believes the agency will obtain up-to-date cost estimates for both types of antilock systems in a planned cost and leadtime estimates study on potential crashworthiness and crash avoidance countermeasures (including antilock).

Also, the agency has estimated the cost of the test equipment and procedures that are currently under consideration. NHTSA estimates that potential compliance test equipment costs for measuring vehicle metrics consist of $19,000 to $45,000 for the tilt table ratio, $45,000 to $90,000 for the static stability factor (consisting of a center of gravity measurement facility) and $130,000 to $290,000 for the side pull ratio (consisting of both a center of gravity measurement facility and a side pull test facility). Personnel costs are about $120 per test for each of these metrics.

With respect to the Regulatory Flexibility Act, NHTSA is unable to determine whether the regulatory action that the agency may eventually take would have a significant impact on a substantial number of small entities. The extent and magnitude of the impact cannot be determined before the specific requirements have been proposed. NHTSA expects that the comments received on today's ANPRM will assist the agency in determining whether the various regulatory alternatives may have an impact on small entities, the potential magnitude of that impact, and the number of small entities affected. Any NPRM or rule that results from this notice will be analyzed for its impact on small entities, in accordance with the Regulatory Flexibility Act.

This action has been analyzed in accordance with the principles and criteria contained in Executive Order 12612, and it has been determined that it does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

VII. Comments

NHTSA solicits public comments on this notice. It is requested but not required that 10 copies be submitted.

All comments must not exceed 15 pages in length. (49 CFR 553.21). Necessary attachments may be appended to these submissions without regard to the 15-page limit. This limitation is intended to encourage commenters to detail their primary arguments in a concise fashion.

If a commenter wishes to submit certain information under a claim of confidentiality, three copies of the complete submission, including purportedly confidential business information, should be submitted to the Chief Counsel, NHTSA, at the street address given above, and seven copies from which the purportedly confidential information has been deleted should be submitted to the Docket Section. A request for confidentiality should be accompanied by a cover letter setting forth the information specified in the agency's confidential business information regulation. 49 CFR part 512.

All comments received before the close of business on the comment closing date indicated above for the advance proposal will be considered. To the extent possible, comments filed after the closing date will also be considered. Comments on the advance proposal will be available for inspection in the docket.

The NHTSA will continue to file relevant information as it becomes available in the docket after the closing date. It is therefore recommended that interested persons continue to examine the docket for new material.

Those persons desiring to be notified upon receipt of their comments in the docket should enclose a self-addressed,

stamped postcard in the envelope with their comments. Upon receiving the comments, the docket supervisor will return the postcard by mail.

A regulatory information number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations.The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN contained in the heading of this document can be used to cross reference this action with the Unified Agenda.

List of Subjects in 49 CFR Part 571

Imports, Motor vehicle safety, Motor vehicles.

(15 U.S.C. 1392, 1401, 1407; delegation of authority at 49 CFR 1.50)

Issued: December 27, 1991.

Barry Felrice,

Associate Administrator for Rulemaking.

[FR Doc. 92-25 Filed 1-2-92; 8:45 am]

BILLING CODE 4910-59-M

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49 CFR Part 571

[Docket No. 1-11; Notice 09]

RIN 2127-AA43

Federal Motor Vehicle Safety Standards, Rear Impact Guards; Rear Impact Protection

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation.

ACTION: Supplemental notice of proposed rulemaking (SNPRM).

SUMMARY: On January 8, 1981, NHTSA published a notice of proposed rulemaking (NPRM) on rear underride crashes, i.e., crashes in which a relatively small vehicle such as a passenger car collides with the rear of a heavy vehicle (i.e., a vehicle with a gross vehicle weight rating (GVWR) greater than 10,000 pounds), such as a large trailer. Rear underride occurs when the front of the smaller vehicle slides under ("underrides") the rear end of the larger vehicle. In the worst cases, trailer design allows the smaller vehicle to underride so far that the trailer's rear end strikes the passenger car's windshield and enters the passenger compartment. The agency received over 100 comments on the proposal, some of which raised issues about possible alternatives to the proposal and about the burdens of the proposal on small businesses. This notice seeks to retain the safety benefits of the earlier proposal while meeting the concerns about potential small business impacts.

DATES: Comments on this notice must be received by the agency no later than March 4, 1992.

ADDRESSES: Comments should refer to the docket number and notice number and be submitted in writing to: Docket Section, National Highway Traffic Safety Administration, room 5109, 400 Seventh Street, SW., Washington, DC, 20590. Telephone: (202) 366-5267. Docket hours are 9:30 a.m. to 4 p.m. Monday through Friday.

FOR FURTHER INFORMATION CONTACT: Sam Daniel, Office of Vehicle Safety Standards, NRM-12, National Highway Traffic Safety Administration, 400 Seventh St., SW., Washington, DC, 20590. Telephone: (202) 366-4921.

SUPPLEMENTARY INFORMATION:

The Safety Problem

This notice addresses the problem of rear underride crashes, i.e., crashes in which a relatively small vehicle such as a passenger car collides with the rear of a much larger and heavier vehicle, such as a trailer with a GVWR greater than 10,000 pounds. Rear underride occurs when the front of the smaller vehicle slides under ("underrides") the rear end of the larger vehicle. Underride occurs to some extent in most collisions in which a passenger car crashes into the rear end of a large trailer. In the worst cases, trailer design allows the smaller vehicle to underride so far that the trailer's rear end strikes the passenger car's windshield and enters the passenger compartment. These worst case crashes, which are referred to as "passenger compartment intrusion (PCI)" or "excessive underride" crashes, occur in essentially all of fatal underride crashes.

In 1989, there were 500 passenger car and light truck fatalities due to rear impacts with heavy trucks. This represents 23 percent (500/2143) of the vehicle occupants killed in rear end collisions that year.

The Existing Standard

The initial regulation addressing the issue of rear underride protection was issued in 1953 by the Bureau of Motor Carriers of the Interstate Commerce Commission (presently the Office of Motor Carrier Safety of the Federal Highway Administration, DOT). This regulation, which is still in effect, requires vehicles used in interstate commerce and manufactured on or after January 1, 1953 to have a rear end device intended to help prevent underride. The rule provides that the ground clearance of the underride guard shall not exceed 30 inches when the vehicle is empty. The device must be located not more than 24 inches forward of the extreme rear of the vehicle, and must be sufficiently wide so that the guard's ends are not more than 18 inches inboard from either side. The regulation requires that the device "be substantially constructed and firmly attached." (49 CFR 393.86.)

Past Proposals

Over the years, DOT reassessed the requirements of § 393.86 and considered the need for NHTSA to issue a Federal Motor Vehicle Safety Standard (FMVSS) on underride protection. Whether present guards are fixed low enough to the ground to engage the striking vehicle or are strong enough to resist impact forces have been issues of particular concern. The most recent of several NHTSA notices was issued in 1981 (46 FR 2136; January 8, 1981). (The notices of proposed rulemaking issued by NHTSA and by FHWA prior to the 1981 NPRM are cited and discussed in that notice.) The 1981 notice proposed to adopt an FMVSS for new trucks and trailers with a GVWR greater than 10,000 pounds. The rulemaking was initiated after research and computer modeling studies led the agency to tentatively conclude that it was feasible to manufacture a lightweight guard that could effectively prevent excessive underride and absorb energy in a crash. Absorbing energy is important because too rigid a guard could increase the severity of crash forces on passenger car occupants and thus increase the risk of injury due to hazards other than underride.

The proposed standard would have required large trucks and trailers to be equipped with an underride guard that met specified strength and configuration requirements when force was applied to the guard by a loading device. The proposed standard differed from the FHWA regulation in three ways. First, NHTSA's proposal specified more objective strength requirements for the guard (FHWA specifies that the guard must be "substantially constructed and firmly attached"). Second, the proposed configuration requirements would have required the guard to be located lower to the ground and further rearward on the vehicle than the guard required by FHWA. Third, NHTSA's proposed guard would have been wider (i.e., closer to the sides of the vehicle) than the FHWA guard. Details of the 1981 proposal are described more fully below.

The 1981 NPRM proposed that the guard (as installed on the vehicle) must be capable of withstanding any one of two combinations of load applications without displacing more than a specified distance. The first load combination

would have been a force of 50,000 Newtons (the proposed requirements were based primarily in metric units), or 11,240 lbs., applied to the guard at a position of 30 cm (11.8 inches) inboard from either the right or left side of the vehicle, and then a force of 50,000 Newtons (11,240 pounds) applied to the middle of same guard, i.e., where the guard intersects the longitudinal vertical plane passing through the vehicle longitudinal axis. The second combination was a force of 100,000 Newtons (22,480 pounds) applied to the guard at any point not less than 35 cm (13.8 inches) and not more than 50 cm (19.7 inches) to the left of the longitudinal vertical plane passing through the vehicle longitudinal axis, and then the same force to the same guard in the area located at the same distance to the right of that plane. The NPRM proposed than when the loads are applied by the load block, the guard must not deflect forward more than 40 cm (15.7 inches) as measured longitudinally from the rear of the vehicle.

In addition, configuration requirements were proposed. The guard would have been required to have a ground clearance of not more than 55 cm (21.65 inches). This distance was intended to ensure that the guard would be high enough for normal trucking operations, yet low enough to engage at least some part of the engine in a small car in a crash, and thus prevent excessive underride. The guard's width would have been required to be wide enough so that the outermost edges were within 10 cm (3.94 inches) of the sides of the vehicle. The guard would have been required to be located not more than 30 cm (11.8 inches) from the rear extremity of the vehicle. The cross sectional height of the horizontal member of the guard was proposed to be at least 10 cm (3.94 inches), to ensure that a substantial part of the guard engages a significant amount of the striking vehicle's structure.

The NPRM proposed to exclude certain heavy vehicles (i.e., vehicles with gross vehicle weight ratings of 10,000 pounds or more) from the standard. Truck tractors and pole trailers, as those vehicles are defined in 49 CFR 571.3, would have been excluded because the agency believed the rear end structure of these vehicles is an adequate underride deterrent. The NPRM also would have excluded "low chassis vehicles" (vehicles having a chassis that extended behind the rear tires and whose chassis met the proposed configurational requirements for underride guards), and "wheels back vehicles" vehicles having a permanently fixed rear axle and whose tires on that axle are not more than a specified distance from the rear of the vehicle and thus tend to prevent underride). The NPRM also would have excluded "special purpose vehicles" (vehicles having work performing equipment at the lower rear of the vehicle whose function would be significantly impaired by an underride guard).

Comments on the NPRM

The agency received over 100 comments on the NPRM. Many of the commenters were manufacturers and operators of heavy vehicles who believed that their vehicles were special purpose vehicles and thus excluded from the proposed rule. Some commenters objected to the proposed requirements and suggested alternative means to reduce the deaths and injuries associated with underride crashes, such as by reducing the incidence of such crashes by improving the conspicuity of heavy vehicles. As a result of those comments, NHTSA undertook research on whether the potential reduction in fatalities that might be achieved by underride guards could be achieved by improved conspicuity as well. The agency believed the conspicuity issue was important because data from the Fatal Accident Reporting System (FARS) had indicated that almost twice as many (65 percent) of fatalities resulting from rear end crashes of passenger cars and light trucks into heavy trucks occurred under "non-daylight" (i.e., "dark," "dawn," and "dusk") conditions as occurred in "daylight" conditions (35 percent).

The preliminary results of the conspicuity study indicated that improved conspicuity with reflectorization and/or lighting has the potential for reducing both the occurrence and the intensity of the rear end crashes under both daylight and night conditions. The degree of potential effectiveness of improved conspicuity in eliminating non-daylight collisions (NHTSA estimates improved conspicuity will be 15 percent effective) and the continuing high rate of rear end collisions of passenger cars into heavy trucks under non-daylight conditions (nearly 65 percent for 1984 to 1989) are such that NHTSA has proposed rulemaking on enhanced conspicuity for large trucks and trailers. 56 FR 63474; December 4, 1991.

In terms of reducing truck underride fatalities and serious injuries, improved conspicuity is expected to be about 9.8 percent effective (0.15×0.65 (non-daylight collisions)). However, the agency believes an underride guard could mitigate the bulk of the fatalities and serious injuries not addressed by improved conspicuity.

Also, accident data on alcohol involvement in rear end collisions with heavy trailers indicate that the driver of the striking vehicle had been drinking in 47.9 percent of the fatal rear end underride collisions. An underride guard may help to reduce the severity of a rear end crash where the benefits of enhanced conspicuity of a vehicle may be negated to an extent by the alcohol-impaired, or drowsiness-impaired, reaction time and sensory perception of the driver. Thus, while enhancing conspicuity could complement the agency's proposal to improve underride guards, it would not obviate the apparent need for such a proposal. The agency believes that both a vehicle's enhanced conspicuity and its guard could reduce the likelihood of a crash occurring, and the severity of the crash in the event that one occurs.

Comments on the NPRM also expressed concerns that the proposed requirements would impose substantial burdens of trailer manufacturers. The trailer manufacturing industry consists of many firms that vary widely in size and engineering capabilities. Some of the firms may lack the financial or technical resources to meet the requirements of the vehicle-based underride guard strength test that was proposed in the NPRM. As a result of the comments, the agency sought to determine whether it could revise its proposal to reduce the burdens on small manufacturers.

Summary of the Proposed Requirements

Today's notice contains proposals that are similar to those in the 1981 NPRM in terms of the contemplated strength and configuration of the guard, but that nevertheless differ significantly from those in the NPRM in terms of the potential impacts on small manufacturers. Instead of a vehicle-based safety standard such as that proposed in 1981, this notice proposes two standards: One standard for the guard itself as an item of motor vehicle equipment, and another for the vehicle. The equipment standard would specify the strength requirements which the guard would have to meet when tested on a rigid test fixture, not on the vehicle itself. Testing guards under these conditions would relieve trailer manufacturers, many of whom are small businesses, of the responsibility of conducting a static or dynamic test of a vehicle equipped with the guard. No vehicle need be certified as to its actual performance with the guard installed.

Instead, the vehicle manufacturer need only certify under the vehicle standard that the trailer has an underride guard (separately certified to the equipment standard) at a specified location.

Proposed equipment standard requirements. This notice proposes to establish minimum performance standards for guards manufactured for particular types of motor vehicles, primarily, van and flatbed trailers. There are additional trailer types to which the proposed rule would be applicable. These vehicles would be required to have a guard by the vehicle FMVSS also proposed in this notice. The underride safety hazard results from the chassis height of many trailers (40–50 inches) and the distance between the rear tires and the rear extremity of the vehicle. The combination of these factors allows passenger cars and light trucks to underride these vehicles in rear end collisions, often resulting in significant injuries. The term "rear impact guard" would be used for the standard instead of the term "underride guard" that had been proposed in the NPRM, to reflect the fact that the guard would protect the occupants of a colliding vehicle by absorbing crash forces, in addition to preventing excessive underride.

This notice proposes many of the same strength and configuration requirements for the guard that were proposed in the 1981 NPRM. (Today's proposed requirements are in English units, instead of primarily metric units used in the 1981 notice.) The 1981 proposal would have required each particular guard to be subjected to one of two tests (see S6.6 of proposed text). "Test 1" would have required a force application to the center and another to the outside edge on either the right or left side of the horizontal member of the guard. "Test 2" would have required a force application to the horizontal member at points of specified distances left and right of the longitudinal center of the guard. Today's notice proposes that force would be applied to one of three specified areas on the guard. Each guard must withstand the applied force at all three areas, any one of which may be tested by the agency in a compliance test. The agency believes modifying the procedure simplifies that test while assuring that appropriate strength requirements are met. The loading device (test block) would have approximately the same dimensions as that proposed in the 1981 proposal.

This notice proposes that the maximum allowable distance that the test block is allowed to travel forward would be five inches from its initial location, i.e., resting against the guard. The 1981 NPRM proposed a figure of 15.7 inches (40 cm.), but this distance was measured relative to the rear end of the vehicle. Since the 1981 proposed rule would have allowed the rearmost surface of the guard to be placed up to 11.8 inches (30 cm.) forward of the rear of the vehicle, the rule would have allowed a guard to deflect from 3.9 inches (10 cm.) to 15.7 inches (40 cm.), depending on guard placement. Under the procedures proposed today, the deflection would be measured while the guard is on a test fixture and taken relative to movement of the test block. The agency has tentatively chosen the five inch requirement because test data have indicated that guards requiring above a five inch displacement to reach specified force levels on a rigid test fixture performed well in full scale tests (Contract No. DTNH22–81–C–07177 by Dynamic Sciences, Inc., "Testing to Support Truck Underride Rulemaking," November 1982). The agency's proposed vehicle standard specifies that the guard is to be placed not more than 12 inches forward of the rear of the vehicle. If a trailer manufacturer placed the guard at the maximum allowable distance from the vehicle's rear, NHTSA believes the specification of five inches of guard displacement in guard strength requirements would result in guards that generate underride resistance forces over a short distance which would significantly reduce the number of PCI collisions.

The FMVSS for the guard would require persons manufacturing a guard to certify that each guard meets the proposed requirements by permanently labeling the guard with the symbol "DOT" and with the name of the guard manufacturer. NHTSA believes labeling the guard would facilitate enforcement efforts by providing a ready means of identifying the manufacturer. Except for a guard which is produced and installed by a vehicle manufacturer on a vehicle it produced, each guard would be required to be accompanied by installation instructions. The agency would follow those instructions in setting up a compliance test of the guard. To test a guard manufactured and installed by a vehicle manufacturer on one of its vehicles, NHTSA would contact that manufacturer as needed for compliance testing purposes to obtain a description of the installation procedures used by the manufacturer.

The agency is proposing that each guard must be designed to attach to the "chassis" (defined in the standard as the load-supporting structure) of the vehicle for which the guard is manufactured. This would complement a requirement in the vehicle standard that the guard be attached to the chassis. The rationale for proposing the chassis attachment is because chassis-mounted guards are more capable of preventing PCI than guards mounted to some less rigid part of the vehicle structure. The tests conducted by Dynamic Sciences showed that passenger car underride was kept within acceptable limits and PCI was prevented by the combined strength of the guard and the vehicle chassis members to which the guard was attached for crash severities covered by the proposed standard.

NHTSA proposes that each guard would have to be accompanied by all attachment hardware necessary to ensure that the loads specified in the standard would be met when the guard is attached to a "rigid test fixture." NHTSA would install the guard on the fixture with the attachment hardware provided by the guard manufacturer in the agency's compliance test procedure.

By "rigid test fixture," the agency means a supporting structure that is sufficiently large and appropriately configured so the guard can be attached to it, and that absorbs no significant amount of the energy from the force applied to the guard during a test. The performance requirements would have to be met no matter how small an amount of energy is absorbed by the fixture.

The agency wishes to note that it does not intend to require a change in current guard designs and methods of attachment so that all future guards conform to one particular shape and size of text fixture. If a guard and its method of attachment are unusual in design, the agency will adapt the fixture as appropriate to provide a proper fit with the guard.

The agency's expectation in proposing that the guards be tested on a test fixture instead of on the vehicle on which they are ultimately installed, is that if the guard achieves the specified performance level on the test fixture, and if the guard is installed on the vehicle in the same manner it is installed on the fixture, there will be a significant reduction in underride and PCI cases in the real world. The ability to estimate the performance of the guard on the vehicle based on static tests of the guard mounted on a fixture was demonstrated by the data obtained by Dynamic Sciences. ("Task 4 Report—Truck Underride Guard Static Loading Tests Using a Van" (Other 1982) and "Task 5 Report of Tests 5.1 and 5.2 for Testing to Support Truck Underride Rulemaking" (November 1982), Rodack

et al., Dynamic Science, Inc., Contract No. DTN H22–81–C–07177.)

Proposed vehicle standard requirements. At the outset of this discussion, NHTSA wishes to emphasize that these standards proposed by the agency apply only to new vehicles, not any vehicles already in use. FHWA's regulations address the latter group of vehicles. If NHTSA proceeds to adopt today's proposal as a final rule, FHWA will consider initiating rulemaking to amend 49 CFR 393.86 to require vehicles which were subject to NHTSA's rear impact guard requirements at the time of manufacture to retain and maintain such devices.

The agency has tentatively determined that the vehicle standard should apply to trailers and semi-trailers only, and not to heavy single unit trucks as proposed in the 1981 NPRM. NHTSA has tentatively decided to exclude trucks because approximately 75 percent of the fatalities and serious injuries resulting from heavy vehicle rear end crashes involve collisions with semi-trailers and trailers. Also, the annual cost of equipping new trucks with guards exceeds the annual cost for equipping new trailers. NHTSA tentatively believes that, since trucks cause only 25 percent of the fatalities yet are more costly to equip with a guard than trailers, it may not be reasonable to require trucks to have a rear impact guard. However, NHTSA requests comments on whether the vehicle standard ought to apply to trucks.

Further, NHTSA is proposing to apply the vehicle standard primarily to two types of trailers and semi-trailers, van and flatbed trailers and semi-trailers. These types of trailers uniformly pose a significant rear end collision safety threat because of their height and the distance between the rear wheels and the rear extremity of the vehicle. The rear end structures also do not vary significantly in design from vehicle to vehicle, so a particular guard design would not need to be substantially modified to satisfy the configuration requirements proposed by today's notice.

The agency proposes to exclude special purpose vehicles, wheels back vehicles, truck tractors, low chassis vehicles, and pole trailers from the proposed vehicle standard. Examples of trailers that are special purpose vehicles are dump trailers, oil well servicing rigs, and motorized cranes.

The vehicle standard would require each trailer or semi-trailer to be equipped with a guard that is certified as meeting the equipment standard for guards and installed in the manner specified by the guard manufacturer under the equipment standard. (As noted above, the manner in which the guard is attached to the vehicle should be the same as the manner in which the agency would attach the guard to the test fixture for compliance testing under the equipment standard since the attachments in both circumstances would be governed by the guard manufacturer's instructions.) The vehicle's guard would have to be configured such that the outermost edges of the guard would be located within 4 inches of the side extremities of the vehicle, when measured transversely at a height of 22 inches or less, and the rearmost surface of the guard would have to be located 12 or fewer inches forward of the rear extremity of the vehicle. The guard's edges would not be permitted to extend beyond the sides and rear ends of the vehicle.

NHTSA has tentatively determined that the vertical distance between the lower surface of the horizontal member of the guard and the ground would have to be 22 inches of less, similar to the 55 cm (21.65 inches) proposed in the 1981 NPRM. Some commenters to the NPRM indicated that the 55 cm. ground clearance would be too low to permit trucks or trailers to maneuver up loading ramps without damaging the guard, and would otherwise impair the function of the vehicles. However, because of events that have occurred in recent years, NHTSA believes the concerns expressed in the comments to the 1981 NPRM have been alleviated. The most important events are the apparent steps taken by the trucking industry toward embracing a 22 inch ground clearance design. The Maintenance Council of the American Trucking Industry has a recommended practice (RP 707) to standardize ICC bumper dimensions that includes a provision for 22 inches of maximum ground clearance.

NHTSA also believes the trucking industry would not be opposed to the proposed 22 inch requirement because several (Michigan, Florida, Georgia and North Carolina, New Hampshire, New York, and Vermont) already specify or are considering specifying a 22 inch ground clearance requirement for certain especially long trailers, i.e., 53 feet or longer. Also, the test procedure for underride guards that is specified in Recommended Practice J260 (June 1990) of the Society for Automotive Engineers (SAE) describes a "test zone" on the vehicle, the lower boundary of which is 18 inches above the ground. The 18 inch lower boundary for the test zone shows that the SAE has recognized that 18 inches of ground clearance would not be an undue restriction on the operation of vehicles equipped with underride guards. Moreover, the agency also believes a 22 inch requirement would be acceptable to the industry because methods for loading trailers and semi-trailers onto trains and ships have changed over the past 10 years. A large portion of the loading and unloading of trailers and semi-trailers on and off ships or trains is now done by using a crane rather than driving the trailers or semi-trailers into position as was done prior to 1981, which eliminates many of the ramp angle concerns expressed in comments to the 1981 NPRM.

NHTSA tentatively concludes that, for safety purposes, the vehicle standard should require that the distance between the ground and the lower edge of the guard must be at most 22 inches. The average height of passenger car front ends has been lowered considerably over the past 10 years. A maximum 22 inch ground clearance requirement would ensure that the rear impact guard will engage substantial vehicle structure (e.g., frame, engine and fenders) during a crash. Also, NHTSA requests comments on the adequacy of the proposed 22 inch requirement. Should the requirement specify that the guard must be lower to the ground?

Feasibility of countermeasure. NHTSA believes production and installation of the guard on present trailers and semi-trailers would be feasible within the leadtime proposed below. Today's proposal is based on a NHTSA research program of underride guards that began in the early 1980's. The agency developed a trailer body simulator that effectively modeled the rear of a trailer body during static and dynamic testing, and evaluated the performance of different guard designs when the guards were attached to the simulated rear of the trailer. (Dynamic Sciences, Inc. Contract No. DTNH22–81–C–07177, November 1982.) Guards that met the strength requirements proposed in today's notice performed well when impacted by a 1980 2-door Volkswagen Rabbit in a 29.4 mph crash, and by a 1978 Chevrolet Impala in a 23.9 mph crash. In both tests, vehicle underride was limited to the extent that there wasn't any PCI. Further, crash dummies restrained in the vehicles showed occupant responses well below the allowable injury criteria limits in FMVSS 208, *Occupant Crash Protection* (49 CFR 571.208).

Estimate of needed improvement. The agency estimates that few, if any, present guards would meet the proposed strength and configuration requirements. Information indicates that there may be some guards that could be strong enough

at their center to meet some of the strength requirements, but these guards may not be wide enough to be tested at the specified outboard test points. Also, the vast majority of current guards do not have a lateral structural member located within 22 inches of the ground. The agency requests information that would help NHTSA estimate the extent to which existing guards would have to be improved to meet the proposed equipment standard, and the extent to which trailers would have to be modified to meet the proposed vehicle standard.

Leadtime. The proposed effective date for the rules is two years after publication of the final rule. The agency believes that this leadtime is sufficient for small trailer and semi-trailer manufacturers to develop or purchase guards for the variety of vehicle models they produce. Also, NHTSA believes that the leadtime would be sufficient to design and produce the guards, because designing and producing the guards would require only marginally more effort than that required to produce and install conventional guards now available.

Rulemaking Analyses and Notices

Executive Order 12291 (Federal Regulation) and DOT Regulatory Policies and Procedures

NHTSA has examined the impact of this rulemaking action and determined that it is not major within the meaning of Executive Order 12291. However, this notice is a "significant" rulemaking action under the Department of Transportation regulatory policies and procedures. The notice concerns a matter in which there is substantial public interest. The preliminary regulatory evaluation (PRE) for this notice describes the economic and other effects of this rulemaking action in detail. A copy of this document has been placed in the docket for public inspection.

To briefly summarize the PRE, NHTSA estimates that the proposed guards would have an incremental cost increase of $112.00 per trailer or semi-trailer. This cost represents an incremental increase of $67.00 per guard, $13.33 for replacing the guard's horizontal member when damaged during the life of the trailer or semi-trailer, and an added lifetime fuel cost of $29.53 from the added weight of the guard (approximately 55 pounds) and the attachment hardware. An additional $1.70 cost increment is required for compliance certification. The incremental cost increase of the guard would be less than two percent of the trailer retail cost. NHTSA estimates that the total consumer cost of the proposed rule would be $9,382,800 million annually.

The agency estimates that 9 to 19 fatalities would be eliminated annually by the proposed rule based on the number of vehicle occupants killed in underride collisions with PCI, about 60, and an estimated overall rear end protection guard effectiveness of 18 to 27 percent at preventing PCI. NHTSA further estimates that 76 to 114 non-minor injuries (AIS–2 through 5) would be prevented annually by the proposed rule, including vehicle occupants involved in rear end collisions with and without PCI. The "non-PCI" benefits estimated for this rulemaking may be reduced substantially as airbags become more common and safety belt use increases. If a regulation for enhanced conspicuity were in effect for the rear perimeter of trailers and semi-trailers, the estimate of fatality reduction benefits attributed to rear impact protection guards would be reduced slightly to 8 to 18 fatalities prevented annually. NHTSA also estimates that 69 to 103 non-minor injuries (AIS–2 to 5) would be prevented annually if a regulation for enhanced conspicuity were in effect simultaneously with the proposed rear impact protection guard rule. NHTSA believes that there would be significant additional fatality and injury severity reduction benefits resulting from the rear impact protection guards required by this proposal, but the agency is unable to quantify them.

Regulatory Flexibility Act

NHTSA has analyzed the potential impacts of this rule on small entities under the Regulatory Flexibility Act and has described those possible impacts in the PRE. To summarize the PRE on that subject, the agency seeks to reduce the severity of underride crashes by proposing to improve the design of the impacted vehicle, the trailer, or semi-trailer. Accordingly, trailer and semi-trailer manufacturers would be affected by the proposed rule. There are approximately 322 trailer and semi-trailer manufacturers, most of which are small businesses (less than 500 employees). These manufacturers would have to produce their trailers and semi-trailers with the guard and ensure that the guard is placed within specified distances from the ground and the vehicle's sides and rear. If the trailer and semi-trailer manufacturers were to obtain the guard from a supplier, they would only have to install the guard in accordance with the installation instructions provided with the guard. If the manufacturers produce their own guards, they would have to ensure that the guard met the proposed equipment requirements when tested on a rigid test fixture. Today's proposed rules impose no additional reporting or recordkeeping requirements on small entities.

Today's proposal is itself a less burdensome alternative to the proposed underride guard standard issued in 1981, which specified that NHTSA would test the vehicle to the strength requirements. Today's notice only tests the guard (attached to a test fixture) to those requirements, which avoids the vehicle manufacturer having to test the strength of the guard. Also, unlike the 1981 NPRM, today's notice excludes trucks, because of the apparent lack of a safety need for a guard on those vehicles. Thus, proposing strength requirements for the guard in an equipment standard and excluding truck manufacturers (including small entities) from the rule minimizes the impacts of today's proposal on small entities in a manner that is consistent with the Safety Act. Nevertheless, the agency requests comments on the potential costs and other impacts of the proposed rule on the small entities that would be affected.

Executive Order 12612 (Federalism)

Based on the information available to NHTSA, the agency believes the federalism implications of the proposal would be borderline at most. The information available to the agency indicates that nearly all of the States require underride guards on heavy trailers and semi-trailers, and that most of these require the guard to be mounted within a certain distance from the ground and rear and sides of the vehicle. If the proposed vehicle standard is adopted, it would preempt inconsistent State requirements for the guard. However, the agency believes that Federalism implications would only be borderline becuase the proposed standard would not require that underride guards be fundamentally different from those required by existing State law. Guards complying with the proposed requirements would also meet the preexisting State standard.

In addition, several States (Michigan, Florida, Georgia, North Carolina, New Hampshire, New York, New Jersey, Maine and Vermont) require excessively long trailers (53 or more feet) to have a guard that has the same configuration vis-a-vis the ground and sides of the vehicle as the guard proposed in this notice. Those requirements would not be affected by the rule.

Although the agency has determined that this action does not have sufficient federalism implications to warrant the

preparation of a Federalism Assessment, it should be noted that, regardless of that determination, NHTSA also believes that measures to reduce the fatalities caused by underride crashes can only be implemented effectively at the national level. Only trailer and semi-trailer manufacturers can produce a trailer or semi-trailer with improved rear impact crash protection. Because the proposed improvements would cause trailer and semi-trailer manufacturers and operators to incur costs, rear end collision countermeasures such as an upgraded underride guard could directly affect a manufacturer's competitive position if voluntarily implemented by some, but not all, trailer or semi-trailer manufacturers. A federal safety standard would implement the proposed changes uniformly across the industry and thus reduce competitive effects. A uniform standard would also lower the cost of the safety countermeasure for consumers by taking advantage of economies of scale.

National Environmental Policy Act

NHTSA has analyzed this rulemaking action for the purposes of the National Environmental Policy Act. The agency has determined that implementation of this action would not have any significant impact on the quality of the human environment.

Comments On the Proposal

Interested persons are invited to submit comments on the proposal. It is requested but not required that 10 copies be submitted.

All comments must not exceed 15 pages in length. (49 CFR 553.21). Necessary attachments may be appended to these submissions without regard to the 15-page limit. This limitation is intended to encourage commenters to detail their primary arguments in a concise fashion.

If a commenter wishes to submit certain information under a claim of confidentiality, three copies of the complete submission, including purportedly confidential business information, should be submitted to the Chief Counsel, NHTSA, at the street address given above, and seven copies from which the purportedly confidential information has been deleted should be submitted to the Docket Section. A request for confidentiality should be accompanied by a cover letter setting forth the information specified in the agency's confidential business information regulation. 49 CFR part 512.

All comments received before the close of business on the comment closing date indicated above for the proposal will be considered, and will be available for examination in the docket at the above address both before and after that date. To the extent possible, comments filed after the closing date will also be considered. Comments received too late for consideration in regard to the final rule will be considered as suggestions for further rulemaking action. Comments on the proposal, regardless of their filing date, will be placed in the docket. NHTSA will continue to file relevant information as it becomes available in the docket after the closing date, and it is recommended that interested persons continue to examine the docket for new material.

Those persons desiring to be notified upon receipt of their comments in the rules docket should enclose a self-addressed, stamped postcard in the envelope with their comments. Upon receiving the comments, the docket supervisor will return the postcard by mail.

Regulatory Information Number

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List of Subjects in 49 CFR Part 571

Imports, Motor vehicle safety, Motor vehicles.

In consideration of the foregoing, NHTSA proposes that 49 CFR part 571 be amended as follows:

PART 571—FEDERAL MOTOR VEHICLE SAFETY STANDARDS

1. The authority citation for part 571 would continue to read as follows:

Authority: 15 U.S.C. 1392, 1401, 1403, 1407; delegation of authority at 49 CFR 1.50.

2. A new safety standard, Standard No. ____, Rear Impact Guards, would be added to part 571, to read as set forth below.

§ 571. ____, Standard No. ____; Rear Impact Guards.

S1. *Scope.* This standard specifies requirements for rear impact guards for trailers and semi-trailers with a gross vehicle weight rating (GVWR) of 10,000 pounds or more.

S2. *Purpose.* The purpose of this standard is to reduce the number of deaths and serious injuries that occur in rear underride collisions that involve trailers and semi-trailers with a GVWR of 10,000 pounds or more.

S3. *Application.* This standard applies to rear impact guards for trailers and semi-trailers with a GVWR of 10,000 pounds or more subject to Federal Motor Vehilce Safety Standard No. ____, Rear Impact Protection.

S4. *Definitions. Chassis* means the load-supporting structure of a motor vehicle.

Rear impact guard means a device installed on or near the rear of a vehicle so that when the vehicle is struck from the rear by a smaller vehicle, the device limits the distance that striking vehicle's front end slides under the impacted vehicle's rear end.

Rigid test fixture means a supporting structure that is sufficiently large and appropriately configured so the guard can be attached to it, and that dissipates no significant amount of the energy from the force applied to the guard.

S5. *Requirements.* Each rear impact guard shall:

(a) Meet the requirements of S5.1 through S5.4; and

(b) Except in the case of a guard manufactured by a company for installation on a vehicle it manufactures, meet the requirements of S5.5.

S5.1. *Configuration.* Each guard shall have a cross sectional vertical height of at least four inches at any point across the full width of the horizontal member of the device.

S5.2. *Strength.* When tested under the procedures of S6 with the appropriate force level specified in S5.2.3, each guard shall comply with the requirements of S5.2.1 at each of the test sites determined in accordance with S5.2.2 of this paragraph. However, a particular guard (i.e., test specimen) need not be tested at more than one site.

S5.2.1. In accordance with the test procedures described in S6, when each test site is subjected to the force levels specified in S5.2.3 (a) through (c) for that site, any forward longitudinal movement of the center point on the contact surface of the loading device shall not exceed five inches.

S5.2.2. *Test sites.* With the guard oriented as it would be installed on a vehicle, determine test sites P_1, P_2, and P_3 on the guard in accordance with the procedure set forth in paragraphs (a) through (c) of this section, and as shown in Figure 1.

(a) Test site P_1 is the point on the rearmost surface of the horizontal member of the guard that lies in the horizontal plane passing through the vertical center of that member and that is ⅜ of the transverse horizontal distance between the longitudinal

centerline of the guard and a longitudinal vertical plane tangent to the guard's outermost edge on either the right or left side of the guard.

(b) Test site P_2 is the point on the rearmost surface of the horizontal member of the guard that lies in the longitudinal vertical plane passing through the longitudinal centerline of the guard and in the horizontal plane that passes through the vertical center of the horizontal member of the guard.

(c) Test site P_3 is any point on the rearmost surface of the horizontal member of the guard that is between 14 inches and 20 inches outboard of the longitudinal centerline of the guard on either the right or left side of the horizontal member of the guard, and that lies in the horizontal plane that passes through the vertical center point of the horizontal member of the guard.

S5.2.3. The force levels described below in paragraphs (a) through (c) are applied to the test sites identified in accordance with S5.2.2, according to the procedures specified in S6.

(a) Apply a force of 11,240 pounds to the guard at either test site P_1 on the right or left side.

(b) Apply a force of 11,240 pounds to the guard at test site P_2.

(c) Apply a force of 22,480 pounds to the guard at either test site P_3 on the right or left side.

S5.3. *Labeling.* Each guard shall be permanently labeled with the information specified in paragraphs (a) through (c). The labeling shall be placed on the rearmost surface of the guard at the vertical centerline of the horizontal member of the guard. The information specified in paragraphs (a) through (c) of this section shall be in English and in letters and numbers that are at least one half inch high.

(a) The guard manufacturer's name and address.

(b) The statement: "Manufactured in ____," inserting the month and year of manufacture of the guard.

(c) The symbol DOT constituting a certification by the guard manufacturer that the guard conforms to all requirements of this standard.

S5.4. *Attachment hardware.* Each guard shall be accompanied by all attachment hardware necessary for installation of the guard to the chassis of the motor vehicle on which the guard will be installed.

S5.5. *Installation instructions.*

S5.5.1. Each rear impact guard shall be accompanied by printed installation instructions in English for installing the guard on a motor vehicle.

S5.5.2. The instructions shall specify—

(a) The types of vehicles with which the guard can be used.

(b) The necessity for attaching the guard to the vehicle's chassis.

(c) How the attachment hardware is to be used to install the guard properly.

S6. *Test procedures for evaluating rear impact guards.* The following procedures apply to determining compliance with paragraph S5.2.1:

(a) Attach the rear impact guard to a rigid test fixture according to instructions for guard attachment provided by the guard manufacturer in accordance with S5.5 for that guard or, in the case of a guard produced by a company for installation on a vehicle produced by that same company, according to the procedures followed by the company in installing that guard.

(b) Use a loading device consisting of a rectangular solid made of rigid steel. The solid is eight inches in hieght and eight inches in width. The 8 inch by 8 inch face of the block is used as the contact surface. Each edge of the contact surface has a radius of curvature of 5 ± 1 mm.

(c) Before applying any force, locate the loading device so that:

(1) The center point of the contact surface of the loading device is touching the guard at the test site selected for testing in accordance with S5.2.2.

(2) The longitudinal axis of the loading device passes through the test site and is perpendicular to the transverse vertical plane tangent to the rearmost surface of the guard.

(d) Using the loading device, subject the underride guard to the force specified in S5.2.3 for the selected test site, applying the force to the rearmost surface of the underride guard in a forward direction.

(e) Each of the forces specified in S5.2.3 is reached in not less than one minute and not more than two minutes by increasing the application of force at a constant rate.

(f) During each force application, the loading device is guided so that it does not rotate. At all times during the application of force, the longitudinal axis of the device remains at the intersection of the vertical and horizontal planes that passed through the axis immediately before the application of force.

(g) When the force specified in S5.2.3 for the selected test site is reached, measure the distance that the center point of the loading device contact surface has traveled longitudinally forward from its initial point of contact with the guard.

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31a

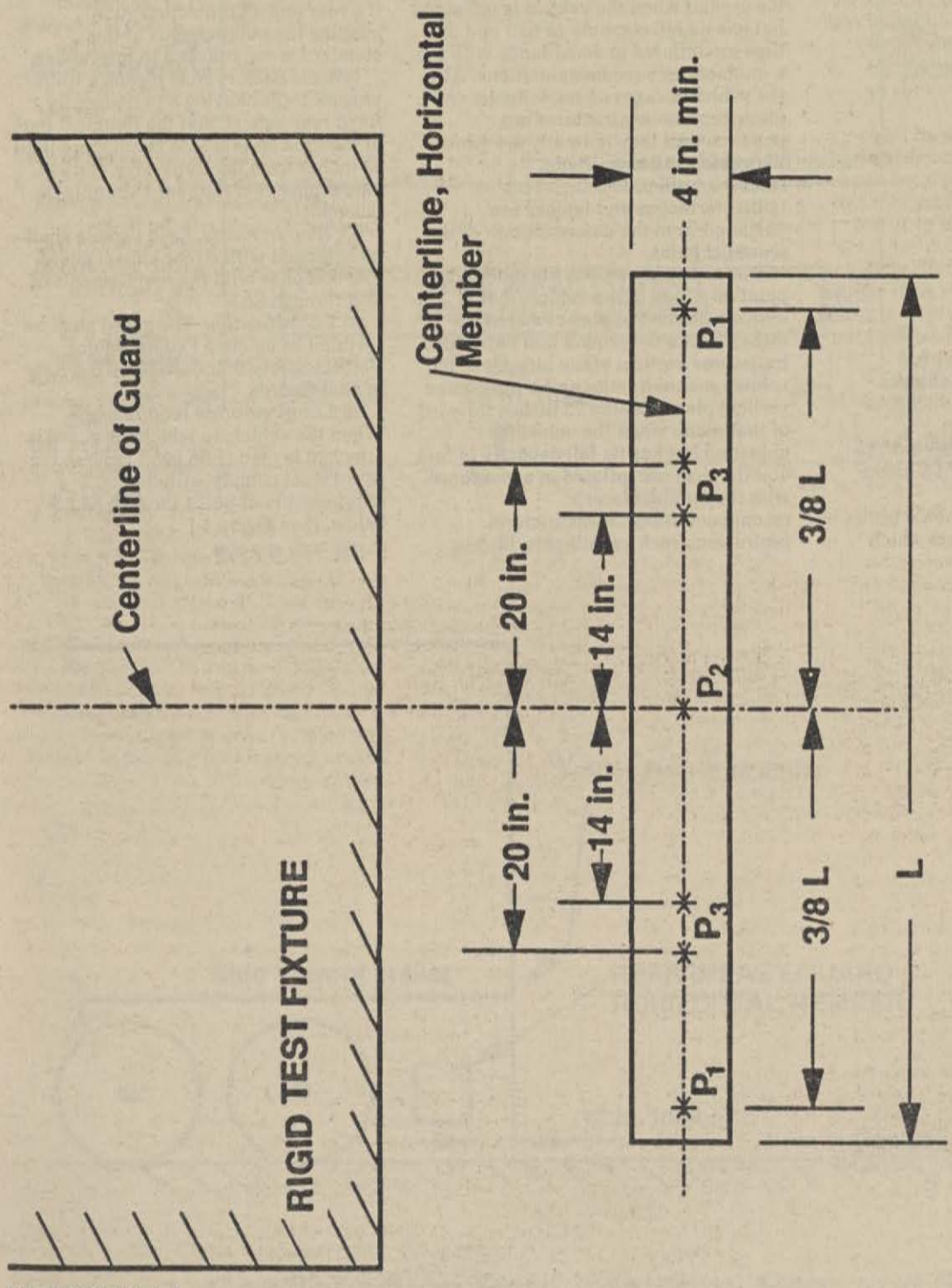

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Figure 1. Performance Requirements.

3. A new safety standard, Standard No. ____, Rear Impact Protection, would be added to part 571, to read as set forth below.

§ 571.____, Standard No. ____; Rear Impact Protection.

S1. *Scope.* This standard establishes requirements for the installation of rear impact guards on trailers and semi-trailers with a gross vehicle weight rating (GVWR) of 10,000 pounds or more.

S2. *Purpose.* The purpose of this standard is to reduce the number of deaths and injuries occurring when vehicles impact the rear of trailers and semi-trailers with a GVWR of 10,000 pounds or more.

S3. *Application.* This standard applies to trailers and semi-trailers with a gross vehicle weight ratings (GVWR) of 10,000 pounds or more. The standard does not apply to single unit trucks, truck tractors, pole trailers, low chassis trailers, special purpose vehicles, or wheels back vehicles.

S4. *Definitions. Chassis* means the load-supporting structure of a motor vehicle.

Low chassis vehicle means a trailer or semi-trailer having a chassis which extends behind the rearmost point on the rear tires and whose rear lower surface meets the configuration requirements of S5.2.

Rear extremity means the rearmost point on a vehicle that falls above a horizontal plane located 22 inches above the ground when the vehicle is unloaded but has its full capacity of fuel and the tires are inflated in accordance with the manufacturer's recommendations. Also, the vehicle's cargo doors, tailgate, or other permanent structures are positioned as they normally are when the vehicle is being driven. Nonstructural protrusions such as taillights, hinges and latches are excluded from the determination of the rearmost point.

Side extremity means the outermost point on a side of the vehicle that is above a horizontal plane located 22 inches above the ground and between a transverse vertical plane tangent to the vehicle rear extremity and a transverse vertical plane located 12 inches forward of that plane when the vehicle is unloaded but has its full capacity of fuel and the tires are inflated in accordance with the manufacturer's recommendations. Nonstructural protrusions such as taillights, hinges, and latches are excluded from the determination of the outermost point.

Special purpose vehicle means a trailer or semi-trailer having work-performing equipment that is located at the lower rear of the vehicle and whose function would be significantly impaired if a rear impact protection guard meeting the requirements of this standard were attached to the vehicle.

Wheels back vehicle means a trailer or semi-trailer having a permanently fixed rear axle so that the rearmost part of the tires on that axle is not more than 12 inches from the transverse vertical plane tangent to the rear extremity of the vehicle.

S5. *Requirements.* Each vehicle shall be equipped with a rear impact guard that complies with the requirements of S5.1 through S5.3.

S5.1 *Certification.* The guard shall be certified as meeting Federal Motor Vehicle Safety Standard No. ____, Rear Impact Guards.

S5.2 *Configuration requirements.* When the vehicle to which the guard is attached is resting on level ground, the guard shall comply with the requirements of S5.2.1 through S5.2.3 below. (See Figure 1.)

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33a

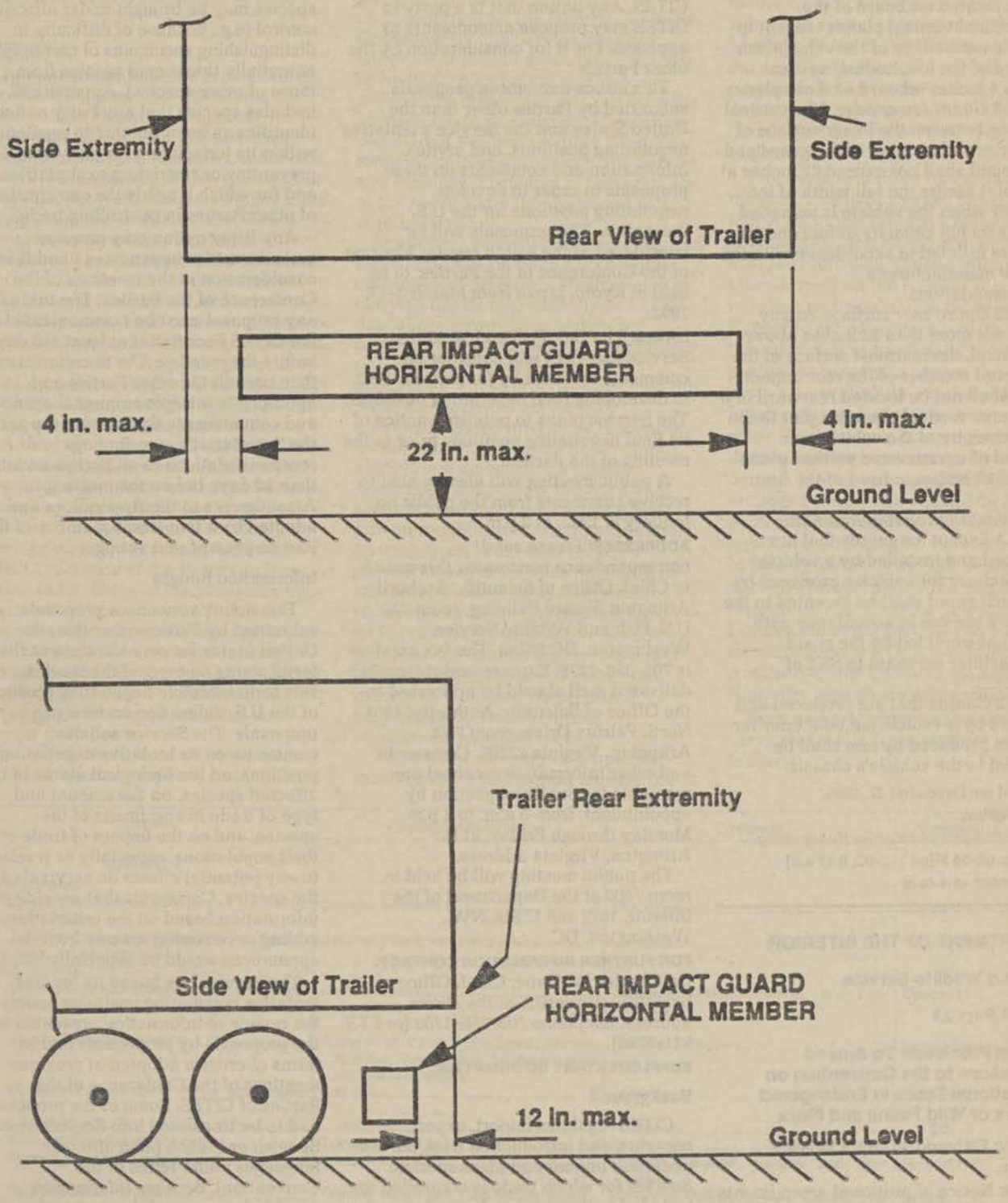

Figure 1. Configuration Requirements, Rear and Side View.

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S5.2.1 *Guard width.* At any height not more than 22 inches above the ground, the outermost edges of the guard shall not be located outboard of the longitudinal vertical planes tangent to the side extremities of the vehicle, nor inboard of the longitudinal vertical planes 4 inches inboard of those planes.

S5.2.2 *Guard lower edge.* The vertical distance between the lower surface of the horizontal member of the guard and the ground shall not exceed 22 inches at any point across the full width of the member when the vehicle is unloaded but has its full capacity of fuel and its tires are inflated in accordance with the vehicle manufacturer's recommendations.

S5.2.3 *Guard rear surface.* At any height not more than 22 inches above the ground, the rearmost surface of the horizontal member of the rear impact guard shall not be located rearward of a transverse vertical plane tangent to the rear extremity of the vehicle, nor forward of a transverse vertical plane located 12 inches in front of the first plane.

S5.3 *Installation requirements.*

S5.3.1 Except for guards that are produced and installed by a vehicle manufacturer for vehicles produced by him, each guard shall be mounted to the vehicle's chassis in accordance with directions provided by the guard manufacturer pursuant to S5.5 of § 571.____.

S5.3.2 Guards that are produced and installed by a vehicle manufacturer for vehicles produced by him shall be mounted to the vehicle's chassis.

Issued on: December 27, 1991.

Barry Felrice,

Associate Administrator for Rulemaking.

[FR Doc. 92-24 Filed 1-2-92; 8:45 am]

BILLING CODE 4910-59-M

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 23

Foreign Proposals To Amend Appendices to the Convention on International Trade in Endangered Species of Wild Fauna and Flora

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of proposed amendments to CITES appendices and public meeting.

SUMMARY: The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES or Convention) regulates international trade in certain animals and plants. Species for which trade is controlled are listed in appendices I, II, and III to CITES. Any nation that is a party to CITES may propose amendments to appendix I or II for consideration by the other Parties.

This notice announces proposals submitted by Parties other than the United States and the Service's tentative negotiating positions, and invites information and comments on these proposals in order to develop negotiating positions for the U.S. delegation. The proposals will be considered at the eighth regular Meeting of the Conference of the Parties, to be held in Kyoto, Japan from March 2–13, 1992.

DATES: The U.S. Fish and Wildlife Service (Service) will consider all comments received by January 31, 1992, in developing final negotiating positions. The Service plans to publish a notice of its final negotiating positions prior to the meeting of the Parties.

A public meeting will also be held to receive comments from the public on January 8, 1992, at 2 p.m.

ADDRESSES: Please send correspondence concerning this notice to Chief, Office of Scientific Authority; Arlington Square Building, room 725; U.S. Fish and Wildlife Service; Washington, DC 20240. The fax number is 703–358–2276. Express and messenger-delivered mail should be addressed to the Office of Scientific Authority; 4401 North Fairfax Drive, room 750; Arlington, Virginia 22203. Comments and other information received are available for public inspection by appointment, from 8 a.m. to 4 p.m., Monday through Friday, at the Arlington, Virginia address.

The public meeting will be held in room 7000 at the Department of the Interior, 18th and C Sts. NW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: Dr. Charles W. Dane, Chief, Office of Scientific Authority, at the above address; telephone 703–358–1708 (or FTS 921–1708).

SUPPLEMENTARY INFORMATION:

Background

CITES regulates import, export, reexport, and introduction from the sea of certain animal and plant species. Species for which trade is controlled are included in three appendices. Appendix I includes species threatened with extinction that are or may be affected by trade. Appendix II includes species that although not necessarily threatened with extinction may become so unless trade in them is strictly controlled. It also listed species that must be subject to regulation in order that trade in other currently or potentially threatened species may be brought under effective control (e.g., because of difficulty in distinguishing specimens of currently or potentially threatened species from those of other species). Appendix III includes species that any Party nation identifies as being subject to regulation within its jurisdiction for purposes of preventing or restricting exploitation, and for which it needs the cooperation of other Parties in controlling trade.

Any Party nation may propose amendments to appendices I and II for consideration at the meetings of the Conference of the Parties. The text of any proposal must be communicated to the CITES Secretariat at least 150 days before the meeting. The Secretariat must then consult the other Parties and appropriate intergovernmental agencies, and communicate their responses and the Secretariat's own findings and recommendations to all Parties no later than 30 days before the meeting. Amendments to the Appendices are adopted by a two-thirds majority of the Parties present and voting.

Information Sought

This notice announces proposals submitted by Parties other than the United States for consideration at the forthcoming meeting of the Parties, and sets forth tentative negotiating positions of the U.S. delegation on foreign proposals. The Service solicits comments on its tentative negotiating positions, on the biological status of the affected species, on the amount and type of trade in specimens of the species, and on the impact of trade on their populations, especially as it relates to any potential effects on survival of the species. Comments that provide this information based on the criteria for adding or removing species from the appendices would be especially helpful.

The Service has based its present tentative negotiating positions mainly on the review of information presented in the proposals by proponents and in terms of criteria adopted at previous meetings of the Conference of the Parties of CITES. Some of the proposals had to be translated into English from Spanish or French (also official languages under terms of the Convention). Because information provided in many of the proposals or otherwise available to the Service is too incomplete to allow clear judgments about their merits, several of the tentative negotiating positions presented may be revised as additional biological and trade data are obtained. Final

guidance for the delegation is to be based on the best available biological and trade information, including comments received in response to this notice.

Proposals

In accordance with the provisions of Article XV, paragraph 1(a) of the Convention: Argentina, Austria, Botswana, Brazil, China, Costa Rica, Denmark, Ethiopia, Germany, Indonesia, Kenya, Madagascar, Malawi, Malaysia, Namibia, the Netherlands, Paraguay, the Philippines, South Africa, and Sudan, Sweden, Switzerland, Tanzania, Thailand, Uganda, the United Kingdom of Great Britain and Northern Ireland, Zambia, and Zimbabwe, all Parties to the Convention, have communicated to the Secretariate the following proposals for amendment of Appendices I or II of the Convention. Proposals submitted by the United States will be discussed in a subsequent **Federal Register** notice.

A total of 144 proposals on both plant an animal species were submitted by countries other than the United States, including 17 proposals that were submitted based on the "Ten Year Review" concept first adopted at the 1981 Conference of the Parties in New Dalhi, India. Some of the proposals by Switzerland recommend the deletion from the appendices of those species that have not been reported in trade, unless the species should be included in appendix II because of similarity in appearance to related taxa that do appear in trade.

However, the lack of reported trade for some species proposed for deletion from the appendices may be due to (1) their rarity, (2) the possibility that their listing in the appendices has inhibited trade, or (3) the lack of proper documentation on the reporting of trade. Consequently, the Service does not believe that lack of appearance in trade is, by itself, a sufficient reason to warrant the removal of a taxon from the appendices. In establishing a tentative negotiating position on these "Ten Year Review" delisting proposals, the Service will consider the degree of vulnerability of the species and the likelihood of it entering trade.

In addition to the listing, delisting, and transfer proposals there are two other categories of proposals. Switzerland, in carrying out its responsibilty as CITES depository government, submitted proposal to transfer several populations of crocodiles from appendix II to appendix I. These proposals provide the basis for Parties to act on their previously stated intentions if countries do not submit, or Parties do not adopt, appropriate amendments under resolutions adopted by the third and seventh meeting of the Parties (Conf. 3.15 on ranching or Conf. 7.14 on export quotas). Such is the case for some populations of crocodiles presently on appendix II under special provision. However, for those populations for which ranching proposals or export proposals have been submitted, and if adopted by the Parties, Switzerland intends to withdraw its proposed amendment to transfer these populations to appendix I.

The second category of proposals involves those that would register the first commercial captive-breeding operations for an appendix I animal species. Sixteen such proposals, involving 15 species, have been submitted for consideration at the March meeting of the Conference of the Parties. The Service will consider these proposals based on the criteria described in resolution Conf. 7.10 (available from the Service upon request).

Proposals submitted by Parties other than the United States are listed in the following table. Tentative negotiating positions and the basis for making them also are indicated. These positions were taken largely on the basis of the information contained in the proposals. If insufficient population and/or trade information was provided, the Service's position is usually to oppose the proposal, pending the receipt of further information and a review of the relevant scientific literature. If no supporting documentation has been received the Service has taken no position on the proposed change. The complete text of each proposal received is available for public inspection at the Service's Office of Scientific Authority (see addresss above). The text of any referenced resolution from previous meetings of the Conference of the Parties is available from the Service's Office of Scientific Authority or the Office of Management Authority (see above addresses).

Proposed amendments and the Service's tentative position are as follows:

Species	Proposed amendment	Proponent	Tentative U.S. position
MAMMALS			
Order primates:			
Tarsius syrichta (Philippine tarsier)	Transfer from II to I	Philippines	Support (3).
Order edentata:			
Tamandua tetradactyla chapadensis (Tamandua, collared anteater).	Remove from II (ten year review)	Germany	Support (3,10).
Order pholidota:			
Manis temminckii (common African ground pangolin).	Remove from I	Botswana, Malawi, Nambia, and Zimbabwe.	Oppose (11).
Order carnivora:			
Acinonyx jubatus (cheetah)	Transfer from I to II (Botswana, Malwai, Namibia, Zambia, and Zambabwe populations with quotas).	Namibia, Zimbabwe	No position (1).
Dusicyon (=cerdocyon) thous (crab-eating fox).	Add to II	Argentina	Support (2,3).
Conepatus spp. (hog-nosed skunks)	...do	...do	Do.
Felis geoffroyi (Geoffroy's cat)	Transfer from II to I	Brazil	Support (3).
Hyaena brunnea (brown hyaena)	Remove from I	Botswana, Malawi, Nambia, and Zimbabwe.	Support (11).
Panthera pardus (leopard)	Transfer from I to II (Sub-Sahara population with quotas).	Botswana, Malawi, Namibia, Zambia, and Zimbabwe.	Oppose (17).
Panthera tigris altaica (Siberian tiger)	Transfer from I to II (captive breeding)	China	Oppose (16).
Ursidae spp. (bear spp.)	Add to II (USSR and Baltic States populations) [for look-alike reasons—Article II, 2(b)].	Denmark	Support (7).
Ursus arctos	Add to I (populations of China and Mongolia).	...do	Support (3).

Species	Proposed amendment	Proponent	Tentative U.S. position
Ursus americanus (American black bear)	Add to II [for look-alike reasons—Article II, 2(b)].	do	Oppose (8).
Order tubulidentata:			
Orycteropus afer (aardvark)	Remove from II	Botswana, Malawi, Namibia, and Zimbabwe.	Support (11).
Order proboscidea:			
Loxodonta africana (African elephant)	Transfer from I to II (Botswana, Malawi, Namibia, Zambia, and Zimbabwe populations).	Botswana, Malawi, Namibia, and Zimbabwe.	See discussion in footnote (18).
Do	Transfer from I to II (Botswana population).	Botswana	Do.
Do	Transfer from I to II (South Africa population).	South Africa	Do.
Order perissodactyla:			
Ceratotherium simum simum (southern white rhino).	Transfer from I to II	South Africa	Oppose (22).
Do	Transfer from I to II (Zimbabwe population).	Zimbabwe	Oppose (4,6,22).
Diceros bicornis (Black rhino)	Transfer from I to II (Zimbabwe population).	do	Do.
Do	Transfer from I to II	do	Oppose (16,22).
Order artiodactyla:			
Capra falconeri falconeri (astor markhor)	Transfer from II to I	United Kingdom	Support (6).
Capra falconeri heptneri (bukhara markhor)	do	do	Do.
Hippotragus equinus (roan antelope)	Remove from II	Botswana, Malawi, Namibia, Zambia, and Zimbabwe.	Support (11).
BIRDS			
Order rheiformes:			
Rhea americana (greater rhea)	Add to II	Argentina	Support (20).
Order anseriformes:			
Anas formosa (baikal teal)	Add to II	United Kingdom	Support (3).
Cygnus columbianus jankowskii (Jankowski's swan).	Remove from II (ten year review)	Germany	Support (10).
Order columbiformes:			
Goura spp. (crowned pigeons)	Transfer from II to I	Netherlands	Support (3).
Order psittaciformes:			
Amazona leucocephala (Cuban amazon)	Transfer from I to II (captive breeding)	Germany	Support (15).
Do	do	Philippines	Oppose (16).
Anodorhynchus hyacinthinus (Hyacinth macaw).	do	do	Do.
Ara ambigua (buffon's macaw)	do	do	Do.
Ara macao (scarlet macaw)	do	do	Do.
Ara maracana (illiger's macaw)	do	do	Do.
Ara militaris (military macaw)	do	do	Do.
Ara rubrogenys (red-fronted macaw)	do	do	Do.
Cacatua haematuropygia (red-vented cockatoo).	Transfer from II to I	do	Support (3).
Cacatua moluccensis (moluccan cockatoo)	Transfer from I to II (captive breeding)	do	Support (15).
Probosiger aterrimus (palm-cockatoo)	do	do	Oppose (16).
Order coraciiformes:			
Aceros spp. (hornbills)	Add to II (8 spp.)	Netherlands	Support (7).
Aceros (=Berenicornis) *comatus* (hornbill)	Add to I	Thailand	Oppose (4,9).
Aceros corrugatus (hornbill)	do	do	Do.
Aceros nipalensis (rufous-necked hornbill)	do	do	Do.
Aceros subruficollis (hornbill)	do	do	Do.
Aceros undulatus (hornbill)	Add to II	do	Support (3).
Anorrhinus spp. (hornbill)	do	Netherlands	Support (7).
Anorrhinus austeni (hornbill)	do	Thailand	Support (3).
Anorrhinus galeritus (hornbill)	do	do	Do.
Anthracoceros spp. (hornbills)	do	Netherlands	Oppose (4,5).
Anthracoceros coronautus conrexus	do	Thailand	Support (3).
Anthracoceros albirostris (=*malabaricus*) (oriental pied-hornbill).	do	do	Do.
Anthracoceros malayanus (black hornbill)	Add to I	do	Oppose (4, 5, 9).
Buceros spp. (giant hornbills)	Add to II	Netherlands	Support (7).
Buceros bicornis (great Indian hornbill)	Transfer from II to I	do	Oppose (4, 5).
Buceros bicornis homari (great pied hornbill)	do	do	Do.
Buceros rhinoceros (rhinoceros hornbill)	do	Thailand	Do.
Penelopides spp. (hornbills)	Add to II	Netherlands	Do.
Ptilolaemus spp. (hornbills)	do	do	Do.
Order piciformes:			
Ramphastos spp. (toucans)	Add to II	Paraguay	Support (3)
Pteroglossus spp. (toucans)	do	do	Do.
Order passeriformes:			
Pittidae spp. (pittas)	Add to II (24–26 spp.)	Malaysia	Oppose (21).
Order crocodylia:			
Alligator sinensis (Chinese alligator)	Transfer from I to II (captive breeding)	China	Oppose (16).
Crocodylus cataphractus (African slender-snouted crocodile).	Transfer from II to I (Congo population)	Switzerland	Support (14).

Species	Proposed amendment	Proponent	Tentative U.S. position
Crocodylus niloticus (Nile crocodile)	Transfer Ethiopia population from I to II, pursuant to Resolution Conf. 3.15 on ranching.	Ethiopa	Support (12).
Do.	Transfer Kenya population from I to II, pursuant to Resolution Conf. 3.15 on ranching.	Kenya	Do.
Do.	Transfer Madagascar population from I to II, pursuant to Resolution Conf. 3.15 on ranching.	Madagascar	Do.
Do.	Transfer Tanzania population from I to II, pursuant to Resolution Conf. 3.15 on ranching.	Tanzania	Do.
Do.	Maintain Sudanese population in II, subject to an export quota.	Sudan	Oppose (4, 13, 14, 25)
Do.	Transfer from I to II, (South Africa population).	South Africa	Support (3).
Do	Transfer from I to II (Uganda population subject to an export quota pursuant to resolution Conf. 7.14).	Uganda and Zimbabwe	Support (12).
Do	Transfer from II to I (Cameroon, Congo, Kenya, Madagascar, Sudan, and Tanzania populations).	Switzerland	Support (14).
Crocodylus porosus (saltwater crocodile)	Transfer Indonesia population from I to II, pursuant to resolution Conf. 3.15 on ranching.	Indonesia	Support (12).
Do	Transfer from II to I (Indonesia population).	Switzerland	Oppose (14).
Osteolaemus tetrapis (dwarf crocodile)	Transfer from II to I (Congo population)	....do	Support (14).
Order squamata:			
Corucia zebrata (prehensile-tailed skink)	Add to II	Germany	Support (3).
Vipera wagneri (Wagner's viper)	....do	Sweden	Support (6).
AMPHIBIANS			
Rana arfaki (frog)	Add to II	Germany	Support (7).
Rana blythii (frog)	....do	....do	Do.
Rana cancrivora (frog)	....do	....do	Do.
Rana crassa (frog)	....do	....do	Do.
Rana cyanoonlycus (frog)	....do	....do	Do.
Rana grunniens (frog)	....do	....do	Do.
Rana ibanorum (frog)	....do	....do	Do.
Rana ingeri (frog)	....do	....do	Do.
Rana kuhlii (frog)	....do	....do	Do.
Rana limnocharis (frog)	....do	....do	Do.
Rana macrodon (including *R. microtympanum.*	....do	....do	Do.
Rana magna (frog)	....do	....do	Do.
Rana malesiana (frog)	....do	....do	Do.
Rana modesta (frog)	....do	....do	Do.
Rana paramacrodon (frog)	....do	....do	Do.
Rana rugulosa (frog)	....do	....do	Do.
BONY FISHES			
Order clupeiformes:			
Clupea harengus	Add to I	Botswana, Malawi, Namibia, and Zimbabwe.	Oppose (4).
Order cypriniformes			
Gymnocharacinus bergi (characin)	....do	Argentina	Support (2, 3).
Order atheriniformes:			
Cynolebius constanciae (killifish)	Remove from II (Ten year review)	Switzerland	Support (10).
Cynolebius marmoratus (killifish)	....do	....do	Do.
Cynolebius minimus (killifish)	....do	....do	Support (10).
Cynolebius opalescens (killifish)	....do	....do	Do.
Cynolebius splendens (killifish)	....do	....do	Do.
Order perciformes:			
Thunnus thynnus (bluefin tuna)	Add to I (Western Atlantic population)	Sweden	Oppose (24).
Do	Add to II (Eastern Atlantic population)	....do	Do.
PLANTS			
Family anacardiaceae:			
Schinopsis spp. (quebrachos)	Add to II (3-7) spp.)	Argentina	Support (3,7).
Family araceae:			
Alocasia sanderiana (Sander's alocasia)	Remove from I (ten year review)	Philippines; Switzerland	Support (3,9,10).
Family bromeliaceae:			
Tillandsia spp. (tillandsias)	Add to II [400-500+ spp.]	Austria; Germany	Oppose (4,21).
Family cactaceae:			
Ariocarpus spp. (living-rock cacti)	Transfer from II to I (3+ spp.)	Netherlands	Support (3).
Discocactus spp. (discocacti)	Transfer from II to I (8+ spp.)	Brazil	Do
Melocactus conoideus (conelike Turk's-cap cactus).	Transfer from II to I	....do	Support (3).
Melocactus deinacanthus (wonderfully bristled Turk's-cap cactus).	....do	....do	Do.
Melocactus glaucescens (grayish blue-green, wooly Turk's-cap cactus).	....do	....do	Do.

Species	Proposed amendment	Proponent	Tentative U.S. position
Melocactus paucispinus (few-spined Turk's-cap cactus).	....do	....do	Do.
Uebelmannia spp. (Uebelmann cacti)	Transfer from II to I (4+ spp.)	....do	Do.
Family caryocaraceae:			
Caryocar costaricense (ajo; garlic tree)	Remove from II (ten year review)	Switzerland	Oppose 4,10).
Family fagaceae:			
Quercus copeyensis	Remove from II (ten year review)	Switzerland	Oppose (4,5,10).
Family humiriaceae:			
Vantanea barbourii (ira chiricana)	Remove from II (ten year review)	Switzerland	Oppose (4,10).
Family juglandaceae:			
Oreomunnea pterocarpa (gavilan)	Remove from I (ten year review)	Switzerland	Oppose (4,10).
Family leguminosae (= fabaceae):			
Cynometra hemitomophylla (guapinol negro)	Remove from II (ten year review)	Switzerland	Oppose (4,10).
Dalbergia nigra (Brazilian rosewood)	Add to I	Brazil	Support (3).
Intsia spp. (merbau, Borneo-teak)	Add to II (3 spp.)	Denmark and Netherlands	Support (3,7).
Pericopsis elata (afrormosia)	Add to II	Denmark and United Kingdom	Support (3).
Platymiscium pleiostachyum (cristobal, granadillo).	Remove from II (ten year review)	Switzerland	Oppose (4,10).
Tachigali versicolor (cana fistula)	....do	....do	Oppose (4,5,10).
Family meliaceae:			
Swietenia spp. (American mahoganies)	Add to II (2-3 spp.)	Costa Rica; [also U.S.A.]	Support (3,7).
Family moraceae:			
Batocarpus costaricensis (ojoche macho)	Remove from II (ten year review)	Switzerland	Oppose (4,5,10).
Family orchidaceae:			
Didiciea cunninghamii (didiciea)	Remove from I (ten year review)	Switzerland	Oppose (5,9,10).
Family palmae (= arecaceae):			
Areca ipot	Remove from II (ten year review)	Switzerland	Oppose (4,5,10).
Family thymelaeaceae:			
Gonystylus bancanus (amin)	Add to II	Denmark and Netherlands	Support (3,7).
Family zingiberaceae:			
Hedychium philippinense (Philippine garland flower).	Remove from I	Switzerland	Support (3,5,9,10).

The bases for the tentative U.S. positions on the proposals are:

(1) While this amendment to the appendices has been proposed, the Service has not received any supporting statement from the CITES Secretariat.

(2) The original proposal is in French or Spanish. The Service will provide an English translation upon request.

(3) The listing or delisting of the taxon or taxa, as proposed, appears to be justified by the information in the proposal or currently available to the Service. In terms of some of the timber proposals, however, the Service will support some of the timber proposals only if they are amended to exclude certain parts and/or derivatives of the taxon.

(4) The population status (i.e., the degree of threat of extinction) of the entire species or taxon does not appear to warrant the listing, downlisting, or delisting as proposed.

(5) Available information suggests that there is little likelihood that there has been or will be any significant international trade in this species.

(6) The Service would support listing, or retention, of this taxon in Appendix I on the basis of resolution Conf. 2.19 (i.e., due to the taxon's rarity, and because any trade in it would be detrimental), and because trade has been documented and may increase.

(7) Listing of this species (including population) or higher taxon appears justified because of its similarity of appearance to a species or taxa that are at risk of detrimental trade.

(8) This listing has been proposed because of the preceived need to regulate this species in order that trade in Asian bear species listed in appendix I or II may be brought under effective control due to similarity of appearance, particularly for the gall bladder trade (article II, paragraph 2b). The Service believes that the necessary regulation has been achieved with the recent listing of this species in appendix III by Canada. That listing is not acknowledged in the proposal.

(9) Biological and trade information presented in this proposal do not appear to support listing in appendix I. However, other information is available or may become available to support listing the species or taxon in Appendix II.

(10) This proposal was submitted under the ten year review resolution for downlisting or removal of the species and other taxa from the appendices. The Service either: Supports the proposal believing the information presented to be an accurate interpretation of the likely effect of trade and the lack of risk to the species; or opposes the proposal for removal believing that the lack of reported international trade for the species may be due to rarity, or the lack of proper documentation of actual trade.

(11) This downlisting has been proposed under the provisions of resolution Conf. 2.23, which provided for downlisting or removal of species or other taxa that were included in appendix I or II prior to application of the Berne criteria for addition of species to the appendices. The proposal does not present information sufficient to meet the downlisting criteria under Conf 1.2, but in most instances it appears that international trade is non-existent or extremely restricted, and therefore, would have been considered for downlisting or delisting under the "10-year review" process (Conf. 3.20) or periodic review process (Conf. 6.1) established subsequent to Conf. 2.23. Therefore, the Service intends to support most of these proposals either for downlisting or removal from the appendices, but will consult with Switzerland (previous chair of the 10-year review committee) or Germany (chair of the periodic review group of the Animals Committee). However, the Service's tentative position is to oppose the removal of the cape pangolin from Appendix I because of the possibility of trade in this species.

(12) The transfer of certain Nile and saltwater crocodile populations from appendix I to appendix II was proposed pursuant to resolution Conf. 3.15 on ranching, at least one population subject to annual export quotas for wild harvested specimens. The Service's initial support of these proposals is contingent upon assurance that annual reports are being regularly filed with the

CITES Secretariat by the proponent and that either (1) adequate management programs exist to monitor the wild population, or (2) animals will be returned to the wild in numbers greater than would have survived naturally (the original concept of Conf. 3.15).

(13) The transfer of certain populations from appendix I to II was proposed pursuant to resolution Conf. 5.21, subject to an annual export quota.

(14) Switzerland, as depository government, proposed the transfer from appendix II to I those species that were downlisted from appendix I to II under the provisions of Conf. 5.21. This transfer was called for under the provisions of Conf. 7.14 unless regular downlisting or ranching proposals were submitted for consideration and adopted at the upcoming meeting of the Parties. If the ranching proposals for crocodile populations in Indonesia, Kenya, Madagascar, and Tanzania are adopted by the Parties, Switzerland will presumably withdraw its proposal for those populations. However, the effect of the revised proposal, if all other crocodilian proposals were adopted, would be to return the populations of the dwarf and slender-snouted crocodile in the Congo, and the Nile crocodile in the Cameroon and the Congo, and possibly the Sudan, to appendix I.

(15) Present information supports the proposal to register this appendix I animal species as bred in captivity for commercial purposes under the provisions of resolution Conf. 7.10 (i.e., criteria for a proposal to register the first commercial captive-breeding operation for an appendix I animal species).

(16) Information presented does not indicate that the breeding program meets the criteria stipulated in resolution Conf. 7.10 for registration of the first commercial captive-breeding operation for an appendix I animal. In most instances, either second generation stock has not been produced, or has not been reliably produced. For the Chinese alligator the management program has not been presented in a manner to ensure that the collection will be managed in a way to minimize inbreeding.

(17) The Service recognizes the difficult, if not impossible, requirements imposed by the provision of Conf. 1.2 that expects a showing of improvement in population trends when no adequate surveys were available at the time of the listing. However, until this issue is further clarified, the Service cannot support this proposal under the provisions of Conf. 1.2. The proponent recognized this situation, and the proposal to transfer the leopard from appendix I to appendix II with export quotes adopted by the Parties was submitted under the provisions of resolution Conf. 7.14. This appears to represent an appropriate application of this resolution although such a downlisting can remain in effect for only two intervals between meetings of the Conference of the Parties. However, Conf. 7.14 requires, among other things, "sufficient evidence from a well-documented scientific report on population size and geographical range of the species based on at least a single survey to establish that the species should be included in the appendix II rather than appendix I, according to the criteria of Conf. 1.1." Population "estimates" are provided in the proposal, but this information does not appear to meet the standard stipulated in the resolution. The Service will seek additional information, but presently, the Service supports continuation of the export quotas system for trophies and skins for tourists as previously provided for in resolution Conf. 7.7.

(18) The Service believes that in order for the African countries to maintain substantial populations of African elephants the people in those countries must realize both consumptive and nonconsumptive benefits from this natural resource. The African elephant was listed in appendix I, at COP7 for a number of reasons including to control illegal trade in ivory. A resolution (Conf. 7.9) adopted with this listing acknowledged that some elephant populations may not have met the Berne criteria and set up special criteria for consideration of future downlisting proposals. The Service will consider support for downlisting to appendix II of some of the proposed populations, in accordance with the Conf. 7.9 criteria, if convinced that these populations are not threatened with extinction and that trade in illegal ivory will not be stimulated to the detriment of wild populations. Such assurance might be achieved by allowing only trade in non-ivory parts at this time. The challenges to CITES is to assist in the establishment of a regulated marketplace for elephant products from those countries that have abundant and well managed populations without impacting populations in those countries that do not. This necessitates a marketing system which demonstrably excludes illegally taken ivory. Several Southern African countries are now working towards this end by developing a Southern Africa Center for Ivory Marketing (SACIM). CITES should supplement this effort by developing an international system for monitoring the trade of ivory once it has left the SACIM Trade Center for consumer countries, such as allowing only one-time trade from country of harvest to consumer country with no further trade permitted including no trade in worked ivory. For South Africa, the Service has received the Panel of Experts report, and the Service expects to receive the Panel of Experts report for the other countries in January 1992.

(19) If the previous proposal is adopted this proposal becomes redundant, and presumably will be withdrawn.

(20) The addition of this species was recommended by the CITES Significant Trade Working Group, in large part because of the concern that large numbers of specimens of the subspecies listed in Appendix II were being illegally traded as specimens of the unlisted subspecies.

(21) Biological and/or trade information presented on this taxon seems insufficient to meet the Berne criteria. However, the Service recognizes that sufficient information may exist and/or become available to support the addition of certain of these species to appendix II. The issue then would be whether those not meeting appendix II, article II, paragraph 2(a) criteria could be practically and effectively distinguished from those included in Appendix II because of the potential for detrimental trade.

(22) All proposed amendments for rhinoceros were submitted to enable commercial trade in horns with the belief that properly controlled harvest (often involving removal of horns without harm to the animal) would support conservation of the species. The black rhinoceros population in Zimbabwe continues to be under significant poaching pressure, the white rhinoceros population in Zimbabwe is extremely small (about 400 animals), but he white rhinoceros population in South Africa appears to be relatively secure. Nevertheless, the Service believes that allowing legal trade in rhinoceros horn will, because of the extreme demand for this part, impose sufficient enforcement problems so as to contribute to additional illegal take of wild rhinoceros.

(23) The Service has supported interim downlistings of crocodile species provided conservative export quotas were established based on population status information. Furthermore, the Service has supported downlisting of crocodilians pursuant to ranching provisions when the wild adult breeding population is adequately protected. Harvest of adult stock has and can again quickly result in overharvesting. However, the Service believes that

South Africa has the strong management programs and enforcement capabilities necessary to preserve the wild populations.

(24) The Service opposes this proposal for the following reasons: (1) The 1991 population assessment indicates that current management by the International Commission for the Conservation of Atlantic Tunas (ICCAT) may have arrested the past decline in numbers of immature western Atlantic bluefin tuna; (2) ICCAT has agreed to accelerate recovery of the western Atlantic population by reducing quotas over the next four years and evaluating further reductions early in 1992; (3) ICCAT has convened a working group to control trade in western Atlantic bluefin tuna by non-members and to better document trade among members of ICCAT. The Service intends to re-evaluate its position if ICCAT does not implement these measures or if future assessments show a need for additional measures.

(25) At COP7, Sudan requested a one-time quota to dispose of 5,040 Nile crocodile skins. furthermore, Sudan reported that they had instituted a ban on hunting for 3 years, from January 1, 1989, to the end of December 1991. Sudan also agreed to inventory and tag all skins. The present proposal notes that an additional 11,960 skins have been stockpiled, of which 8,000 have been aequately preserved. All were reportedly legally taken in 1990. Sudan announces that hunting of wild crocodiles ended completely in 1991, and requests an export quota for 8,000 skins.

Future Actions

The Service has announced in the December 31, 1991 **Federal Register** the provisional agenda for COP8 and resolutions submitted by the Parties. That **Federal Register** notice also presented the Service's tentative negotiating positions on these agenda items and resolutions.

The Nomenclature Committee, in conjunction with the Wildlife Trade Monitoring Unit, has been working to review and resolve numberous ambiguities in the Appendices that arose from the listing of taxa at the plenipotentiary and first meetings of the Conference of the Parties. Supporting documents were not a matter of record at these meetings and either similar names may have had more than one interpretation or the scientific name used may not have been the preferred or commonly accepted name. The Service anticipates that the Nomenclature Committee will be submitting a list of over 50 such clarifications to the CITES Secretariat, and that this list should be available to the Service by the end of January 1992. Presumably only about a dozen of these clarifications will involve more than technical name changes.

The next regular meeting of the Parties is scheduled to be held in Kyoto, Japan from March 2–13, 1992. The Service will develop final negotiating positions and announce these decisions prior to the meeting of the Conference of Parties. These negotiating positions will be based upon the best available biological and trade information, taking into account comments received in response to this notice. If further information is presented at the meeting in Japan, the U.S. delegation to COP8 will also take it into account in determining whether the Service's previous positions remain appropriate.

Public Meeting

The Service announces a public meeting on January 8, 1992, at 2 p.m. in room 7000 at the Department of the Interior, 18th and C Streets, NW., Washington, DC. This meeting is being held to provide information about the eighth meeting of the Conference of the Parties, and to receive comments from the public on the proposed amendments to the Appendices, the proposed resolutions, and other agenda items.

This notice was prepared by Drs. Charles W. Dane, Bruce MacBryde, and Richard M. Mitchell, Office of Scientific Authority, under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

List of Subjects in 50 CFR Part 23

Endangered and threatened species, Exports, Imports, Transportation, and Treaties.

Dated: December 26, 1991.

Richard N. Smith,

Deputy Director.

[FR Doc. 92–42 Filed 1–2–92; 8:45 am]

BILLING CODE 4310–55–M