

DEC - 9 1992

This document is made available electronically by the Minnesota Legislative Reference Library as part of an ongoing digital archiving project. <http://www.leg.state.mn.us/lrl/sonar/sonar.asp>

10/14/92

STATEMENT OF NEED AND REASONABLENESS
FOR PROPOSED MINNESOTA RULES, PART 3520.0200
THROUGH PART 3520.5920
RELATING TO SCHOOL BUSES

Background

Rules relating to pupil transportation aid and school buses were last revised in 1989. Since that time, additional state laws have been enacted, related Federal safety standards updated, and national minimum standards for school buses and operations regularly revised. Further improvement in school bus equipment, new technology, the need to safely transport severely disabled children, and enhanced adaptations for Minnesota climatic conditions also contribute to the need to revise and update school bus rules.

Minor language changes have been made throughout the proposed rules; in other instances, where more extensive changes have been made, new parts or subparts have been inserted and the existing repealed.

The process of updating the school bus rules was formally begun in February of 1991. Numerous representatives of the Minnesota Association for Pupil Transportation, Minnesota School Bus Operators' Association, and school bus distributors, as well as Minnesota Department of Public Safety and Minnesota Department of Education personnel have been involved in a series of discussion meetings regarding the needed changes in the rules, and have repeatedly reviewed and reacted to drafts of the proposed rules.

The changes in the rules, as reviewed below, are necessary for several reasons. First, much of the old material is obsolete. It has been more than three years since these rules were last revised. There have been changes in state laws and Federal standards which needed to be incorporated in the rules. Over the same period, school bus manufacturers have developed or adopted new technology which is designed to improve vehicle performance. In some cases, the old rules would not permit the use of the newer technology.

Throughout the balance of this document, the term "clean-up changes" appears with some frequency. This term refers to changes in wording or style that are required by the Reviser of Statutes but that do not change the meaning of the rule. Examples would be changing "shall" to "should" or "must" and inserting "the" at appropriate places in sentences.

The proposed rules are reasonable in light of the many changes that were needed. They are now up-to-date with current statutes and Federal Motor Vehicle Safety Standards. Section 3520.3680 incorporates by reference a number of standards, guidelines, and documents which are widely recognized and accepted by the school bus industry. This is a reasonable means for incorporating the content of these standards, guidelines and documents into the rules without repeating them. The proposed rules have been updated to accept appropriate new technology in vehicle manufacturing. Attempts were made to word the new rules so that improved vehicle technology would be accepted without the need to further amend the rules. A final justification for the reasonableness of the proposed rules is

the industry involvement in their development. A number of meetings were held to work out these changes. At these meetings, there were representatives of: the school district transportation supervisors, school bus contract operators, school bus manufacturers, school bus body distributors, school bus parts suppliers, the Department of Public Safety, and the Department of Education. Every proposed change was thoroughly scrutinized and discussed. Changes were made only after there was agreement from all persons involved. The participants in these meetings represented all the groups most knowledgeable about pupil transportation.

STANDARDS FOR AID

3520.0400 TRANSPORTATION DATA REPORTING REQUIREMENTS. Several minor changes were made to clean up the language of this section and to correct references.

RULES, OPERATION OF SCHOOL BUSES AND PUPIL TRANSPORTATION SAFETY EDUCATION PROGRAM

3520.2400 OPERATION OF TYPE I AND TYPE II SCHOOL BUSES. In Subp. 2, service dogs accompanying the disabled are excluded from the items that are prohibited on school buses. Disabled students are often accompanied by service dogs to allow them to better function in their day-to-day activities. Federal laws prohibit discrimination against the disabled. In addition, "mainstreaming" and "inclusion" are the watchwords in service to the disabled. It would be illegal to deny transportation to a disabled student because of the presence and use of a service dog.

3520.2500 DRIVER OF TYPE I BUSES. Item (F) has been amended to include more specific procedures for stopping at railroad crossings. It has been accepted practice in school bus transportation to use the 4-way hazard warning lights at railroad grade crossings and to open the service door and driver window to look and listen for trains. It is necessary to incorporate these procedures into rules to officially standardize the railroad grade crossing stop operation. This should provide greater safety as the procedures become more familiar to all school bus drivers and the motoring public. It is reasonable to include these procedures in the rules in that they are procedures which are widely recognized and understood. They are already a part of most school bus driver training programs.

3520.2700 TIRE REQUIREMENTS FOR ALL TYPES OF VEHICLES. This section has been deleted because Section 3520.4731 TIRES AND RIMS has been expanded. In addition, this deletion removes outdated standards which were from the era before radial tires came into common usage. By deleting this section and expanding on Section 3520.4731, all tire rules are consolidated into a single section.

DESIGN OF SCHOOL TRANSPORTATION EQUIPMENT STANDARDS

3520.3701 VEHICLE DESCRIPTIONS. Subp. 6 is deleted. This subpart dealt with having the "MN" designation incorporated in the body identification number to indicate that the bus body was manufactured to meet Minnesota standards. During the 1991 legislative session, school bus related laws were reorganized and amended. This item is now thoroughly covered in M.S. 169.441, Subd. 4.

Subd. 10 has been amended by changing the title from "No depreciation; exception" to "Remounting" to better reflect the content of this section which deals with remounting new school bus bodies on used chassis. The language which prohibited such remounting on chassis more than three years old has been deleted and language inserted to require remounted vehicles to meet standards that are current at the time of remounting. The cost of school buses is steadily increasing. On occasion, an accident will cause considerable damage to a school bus body but little or no damage to the chassis. On these occasions, it is more economical to remount a new body on the chassis than to replace the entire bus. By requiring the remounted vehicle to comply with current standards, the vehicle will be essentially equivalent to a new school bus.

3520.4100 BATTERY. Subp. 1, B is amended by substituting the amount 1050 for the amount 1070 when setting the minimum cold cranking power. Some school bus manufacturers supply a standard battery of 1050 cold cranking amperes. In order to comply with the 1070 requirement, they would have to step up considerably in size with a corresponding increase in price. The loss of 20 cold cranking amperes will not cause any problems.

Subp. 3 is amended by updating the reference to the SBMI Design Objectives from the 1985 to the 1990 edition. This makes the reference more current.

3520.4201 BRAKES. Subp. 10 is amended by adding a sentence that requires new buses to have automatic slack adjusters if equipped with air brakes. Automatic slack adjusters maintain the brakes at the level of maximum efficiency. They reduce maintenance costs while improving safety. It is reasonable to make this requirement applicable to new buses only so that school districts and contractors will not be required to retrofit existing buses.

3520.4301 FRONT BUMPER. The first sentence, which required that the front bumper be furnished by the chassis manufacturer, was deleted. It is not so important who supplies the bumper, but rather that the bumper meets the requirements. By taking out the requirement that the bumper be furnished by the chassis manufacturer, the way was cleared for the introduction of the option for energy absorbing bumpers. This option was added so that school districts and contractors can install energy absorbing bumpers if they choose. Energy absorbing bumpers have several benefits. Among them are the elimination of minor damage and repair from low impact collisions and resulting cost savings over the life of the vehicle. Crash forces are reduced along with injury severity with energy absorbing bumpers. The option, as written, includes strength and other performance requirements for these bumpers. This option is reasonable, in this form, because it is taken directly from the 1990 National Standards for School Buses and Operations, a nationally recognized source of school bus standards.

3520.4510 COLOR. Subp. 4, C is amended to eliminate the references to specific colors of retroreflective materials and to require compliance of such materials with Section 3520.4900 COLOR under the body area. The use of reflective materials on school buses is a hot topic in the pupil transportation industry. The subject was discussed in detail at the Eleventh National Conference on School Transportation in 1990. The changes incorporated in this section and in the body section 3520.4900, Subd. 7, D are taken from that Conference's recommendations published in the 1990 National Standards for School Buses and Operations. More rationale will be given under the Section 3520.4900.

3520.4600 FUEL TANK. Subp. 7 is amended by striking old language and inserting new language. The title of the subpart is changed to Alternative Fuels. A definition of alternative fuels is added. New standards have been developed for alternative fuels by the NFPA (National Fire Protection Association). The standards are now numbered differently and are being updated. These changes will put the rules in step with current practice.

3520.4711 SPRINGS. The last sentence is deleted. This subject is covered by Federal Motor Vehicle Safety Standards (FMVSS). A manufacturer will not build and offer for sale a vehicle which does not comply with FMVSS's.

3520.4731 TIRES AND RIMS. The existing rule is left intact except that it is now given the heading of Subp. 1. Two additional subparts are added. Subp. 2 includes rules for condition, damage, and tread depth of tires. Subp. 3 prohibits the use of certain special purpose tires on school buses. The changes in this section and in Section 3520.2700 eliminate outdated standards of pre-radial design era. The two added subparts include suggested language from FMVSS 570.62 in part and address tire repair. Over the past several years, better tires and better repair methods have been developed. School districts and contractors should be able to get better service life from tires and keep costs as low as practical. Properly repaired quality tires should not present a safety hazard.

3520.4831 BODY SIZES. This section has been deleted because much of the material is covered in FMVSS's. School bus manufacturers cannot and will not build buses that do not comply with FMVSS's.

3520.4850 REAR BUMPER. The title has been changed to reflect that this rule applies to rear bumpers only. Subp. 1 is deleted as it was only a cross reference to help people find the front bumper rule.

Subp. 3 has been amended by deleting the title and several phrases. The title of the subpart was deleted because the entire rule now covers only the rear bumper. The first phrase deleted is, "so that it may be easily removed." This wording is deleted because it is difficult to define what is meant and because it may appear to require bolt-on bumpers and prohibit welded-on bumpers. Since rear bumpers are seldom removed from school buses, the language was thought to be unnecessary. The second phrase deleted is, "and must be attached to prevent hitching of rides." This language is thought to not be needed as it is probably unlikely that a bumper can be designed so that hitching of rides cannot take place.

Subp. 5 adds an option for an energy absorbing rear bumper. The requirements for this optional rear bumper are generally the same as the front bumper option added in 3520.4301. The need and reasonableness statements for that section also apply here for the energy absorbing rear bumper option.

Subp. 6 is a cross-reference dealing with reflective materials on rear bumpers. It refers the reader to Rule 3520.4900 for the details of reflective materials on bumpers.

3520.4900 COLOR. Subd. 7 has been amended by striking some language and adding new material in item D and by adding a new item E. The changes in item D tie in with the similar changes in 3520.4510, Subp. 4 C. Old language which lists the allowable colors for retroreflective materials is deleted.

In prior years, reflective materials were only allowed to be used on the bumpers of the bus. At the Eleventh National Conference on School Transportation in 1990, the subject of reflectorization of school buses was thoroughly discussed. The committee of selected individuals who reviewed these rules with Department of Education staff also discussed the topic in detail. The consensus of opinion was that reflective materials should be allowed as an option, but should not be required. The group also agreed that the type, amount and location of reflective material should be spelled out in detail. School districts and contractors who choose to use reflective materials must comply with the rule as to type, amount and location. These details were spelled out in language added to item D. This additional language is reasonable in that it is optional, it can be adopted in whole or in part, and the amount of material was kept at the minimum that was felt to be needed to accomplish the task.

Item E is all new material. It allows the optional use of white roofs on school buses. The purpose of this option is to minimize absorption of heat through the roof and to keep the interior temperature of the buses down to a more comfortable level. This option will probably be used primarily for vehicles which transport disabled students to summer school programs. The new language limits the area of the roof which can be painted white so that the general appearance of the yellow school bus will not be too severely altered. This option is reasonable in that it does not appreciably alter the appearance of the school bus while still providing some relief from excessive summer temperatures. It provides a less expensive alternative than air conditioning the bus.

3520.4930 FLOOR CONSTRUCTION. Subp. 1 is amended by adding language to the second sentence which states that the plywood floor covering is required in the passenger area but not over the wheel housings. This additional language was needed to clarify the fact that the wheel housings do not have to be covered with plywood. Because of the curved surfaces involved, covering the wheel housings with plywood would be very difficult. This change is reasonable in that it merely clarifies what has been standard practice in the industry.

In the next sentence, the words "five-ply" have been deleted. The standards of the plywood industry have changed over the years and the number of plies does not guarantee certain levels of strength or quality. Four-ply plywood can have the same quality as five-ply plywood of the same thickness. The reference to number of plies is deleted, but not the quality standards. This change is reasonable in that it does not sacrifice the quality or the benefits derived from plywood flooring, but may, in fact, provide the benefit of lower cost.

3520.5010 DOORS. Subp. 2. Emergency door and emergency window has been amended in several ways. First, after the fifth paragraph, which states that there should not be any steps leading to the emergency door, an option has been added. The option is for a stirrup step on the rear bumper below the emergency door. This stirrup step is mounted on the bottom of the bumper, does not protrude beyond the surface of the bumper, is not lower than a tow hook or exhaust pipe, and is not considered a danger in any way. It offers the advantage of easier and safer entrance into the bus by the school bus driver during normal entry or

in an emergency situation. This is not an item that is unsafe or that will hinder the evacuation of students in any way. Worker's Compensation department has recommended the addition of the stirrup step to reduce claims from drivers. The new language includes specific details for such stirrup steps. This option is a reasonable method for providing easier access through the rear emergency door. When used, it should provide greater safety and convenience for drivers.

Secondly, in the fourteenth paragraph, some language was deleted. this paragraph deals with emergency door locks. The language deleted required that the emergency door lock switch should be enclosed in a metal case. The requirement that the switch be enclosed is retained, but the requirement that the enclosure be "in a metal case" is deleted. The enclosure is needed for safety purposes so that the switch cannot be accidentally thrown. The type of material from which the enclosure is made is not critical. School bus manufacturers are providing perfectly safe enclosures made of plastic or Fiberglas or other non-metal materials. This change is reasonable in that it provides a less expensive method of meeting the standard without compromising safety.

The third change in this subdivision is in the sixteenth paragraph. Amendments are made to the paragraph by deleting some wording and adding an option. This paragraph covers locks on emergency doors. The locks are referred to as "vandal" locks. The word "vandal" is deleted because of its negative connotations. It is also superfluous. The other change to this paragraph is the addition of an option. This option would permit a slide bolt or key type lock on the inside of the door as long as such lock meets applicable Federal standards. The locks permitted here are different from the locks required in the fourteenth paragraph. Those locks are operable from both the inside and outside of the bus. The locks permitted in this paragraph are operable only from the interior of the bus. They are used to provide security for the bus while it is unattended. These changes are reasonable in that these locks, if used, would have to comply with applicable Federal standards.

3520.5120 FIRST AID KIT. This section is amended with some clean-up changes, a deletion, and adding two subparts. The first clean-up change is to label the existing material as Subp. 1. This is necessary to pave the way for the later addition of two more subparts. In this Subp. 1, there are a couple of minor changes. In item A, the Arabic 10 is substituted for the word ten. This change provides for consistency with items B and C. In item D, the term Required Packages has been amended by substituting the word Units for Packages. For many years, there has been confusion between the terms units and packages. Being consistent with the wording should eliminate the confusion. The "Padded Tongue Blade" has been deleted and "1 Pair Latex Gloves" has been substituted. Many years ago, the padded tongue blade was used by inserting it into the mouth of persons having seizures. Current practice for the treatment of seizures does not recommend such use. A greater concern, in this day and time, is the possible contact with infectious diseases. Hence the substitution of the latex gloves for the padded tongue blade.

Subp. 2. Body Fluids Clean-up Kit has been added as new material. This was done because of the growing possibility of drivers having contact with body fluids from students with highly contagious diseases. The Nation Standards Conference also included a requirement for such a kit in the national standards. The requirement was kept as simple as possible, while still being adequately

comprehensive, in order to keep costs as reasonable as possible. This is a reasonable means to address this important problem while still not forcing unreasonable expenditures onto districts and contractors.

Subp. 3. Seat Belt Cutter has been added as new material. This requirement is linked to the installation of seat belts for pupil passengers. The cutters are only required in school buses so equipped. The purpose is to allow the quick, efficient evacuation of the bus in emergency conditions. Most often, the students transported in vehicles equipped with pupil passenger seat belts are disabled. In many cases, they may not be capable of unfastening a seat belt or a wheel chair securement device. Time constraints may not permit the driver, aide, or rescue personnel to find and unfasten multiple securement fasteners. A far faster and safer way to free pupil passengers is to cut the belts. These seat belt cutters have a protected blade which is capable of cutting through a seat belt with a single pull of the cutter. The cost of such cutters is very reasonable in light of the vital function they can perform under emergency conditions. The safe evacuation of disabled students is one of the greatest safety concerns in pupil transportation.

3520.5160 IDENTIFICATION. Subp. 1 has been amended by striking some language and adding new language in the second paragraph. Because of the Commercial Vehicle Laws required by the Federal government, state laws governing the identification of these vehicles have been changed. The material stricken out referred to the old law. The new language which has been added brings this section up to date with the new laws governing commercial vehicles.

Subp. 3 has been added. This subpart permits, as an option, a sign on the rear door of a school bus. The sign would inform following drivers that they must stop for the school bus flashing red lights. This subpart was added in response to M.S. 169.441, Subd. 5 which requires, "The commissioner shall adopt rules governing the size, type, design, display, and content of the summary message that may be shown."

3520.5200 LAMPS AND SIGNALS FOR NEW BUSES ONLY. New language has been added in Subp. 3 regarding the step well light. Manufacturers wire the step well light in a variety of ways. This will standardize the usage of the system. One of the complaints is having the light on while on the road at night. The light is needed only when students or others are boarding or leaving the bus. The light is a distraction for the driver if it remains on while the bus is moving.

In Subp. 4a, the second paragraph, some new language is added. This new language recognizes that some bus users and some manufacturers prefer to have separate pilot lamps for the amber and red light systems. This provides the bus driver with a bit more detailed information about the system than a single red pilot lamp. The new wording is added in such a way that the dual pilot lamps are not required, but optional.

Subp. 8 is amended by striking language that requires a certain minimum wire gauge. This is the last sentence in the subpart. Because of advances in design of electrical components, electrical current draw is often not as high as in years past. Manufacturers will select and use wiring which is adequate to make their lighting systems function properly.

Subp. 9, item D is amended by changing the statutory reference to reflect the consolidation of school bus laws approved by the 1991 Legislature.

3520.5220 TURN SIGNAL LAMPS AND STOP LAMPS. Subp. 1 is amended by striking old language and adding new language. The choice of either amber or red rear turn signal lamps has been eliminated. Only amber rear turn signal lamps will be allowed. There has been some confusion caused by the fact that some rear turn signal lamps are red. Red lamps are not as bright as amber lamps. In some cases, the turn signal lamps and stop light have been combined. Under such conditions, signals can be confusing to following drivers. This change will provide greater uniformity and consistency among school buses. Language which refers to the height location of the turn signal lamps is deleted. This language is unnecessary because the location of such lights falls within Federal standards. A requirement that all turn signals on Type I and II Minnesota school buses will have to be amber by September 1, 1993 is added. This additional requirement was thought to be necessary to bring all buses into compliance with the rule and to provide uniformity for all school buses. The rule will require retro-fitting all buses in the state at the time the rule becomes effective. Retro-fitting can be accomplished by changing lenses on the lamp units. It is reasonable to make such change in this manner because it gives school districts and contractors adequate time to comply with the new requirement. The cost for replacement lenses will be nominal.

Subp. 1a. A final change in this section is to add, in a new subpart, a requirement that all Type I and II school buses will be equipped with amber turn signals on the sides of the buses. These signals will be easier for drivers of other vehicles to see when they are in traffic lanes to either side of the bus. The type of lamp and the location of the lamps is detailed. The lamps will work in conjunction with the vehicles regular turn signals. The cost of these side turn signals should be nominal. This requirement will apply only to new school buses brought into the state after the effective date of these rules changes. This requirement is added as a new subpart so that it is clear the requirement is only for new school buses. If a new subpart had not been added, there may have been a question as to whether this requirement was to be retroactive as the changes in Subp. 1.

3520.5310 MIRRORS. Substantial changes have been made to the rule covering mirrors. First, in Subp. 1, the title "Required equipment" has been changed to "Interior mirror." The old rule covered both interior and exterior mirrors. The revised rule separates the interior and exterior mirrors into different sections. The language which covered exterior mirrors is deleted. These mirrors will be covered by new language in sections which have been added.

In Subp. 2 all old language is deleted. New language, which covers the exterior mirror system is inserted. This subdivision will apply to all new school buses brought into the state after The effective date of these rules.

The old Subp. 3 is deleted and a new Subp. 3 is inserted. The new language requires older school buses which are already in service on the effective date to meet the highest standard incorporated in the rules prior to these rules changes. Districts and contract operators will have until September 1, 1993 to comply with this provision.

The existing exterior mirror rules have been changed through a type of patchwork or Band-Aid system over the years. The result is that we have a number of different requirements which are applicable to buses dependent on the manufacture date or first service date of the bus in Minnesota. This has created problems for the inspection program and for law enforcement.

At the Eleventh National Conference on School Transportation in 1990, a great deal of time and effort was devoted to the school bus exterior mirrors. For the first time, the exterior mirrors were treated as a "system" rather than as side, rear view, cross view, convex, elliptical, hemispherical, etc. The reorganization of this mirror rule adopts the "crossview mirror system" directly as adopted by the Conference. This system assures the driver has the best possible view of the area in front of and to the sides of the school bus. It is the safest known way to eliminate one of the greatest dangers in pupil transportation.

Because of cost factors, the rule will not be made retroactive to existing buses. However, buses now in service will be expected to meet the highest level of mirror equipment in effect prior to these new rules. This is a reasonable compromise to get the "mirror system" in use throughout the state's fleet in the shortest possible time.

Subp. 4 is repealed. This subpart dealt with an option to substitute one type of mirror for another. It is no longer needed because the new performance standards adopted in the preceding paragraphs clearly define what mirrors/mirror systems are required.

3520.5380 SEAT BELT FOR DRIVER. This rule is amended by striking old language and inserting new language. The amended rule is now exactly the same as adopted by the National Conference. The major change is that the driver will now have a combination lap/shoulder belt assembly rather than just a lap belt. This should provide greater protection for the driver. It should also provide greater safety for the pupil passengers because the driver will be able to provide better control of the school bus under adverse conditions.

3520.5450 STEPS. This section is amended by adding Subp. 4 Barrier/stanchion. The committee working on the rules added this subpart because it was concerned that, in instances where there is no student seat immediately behind the service door, the absence of such a barrier could constitute a safety hazard. This would be a definite possibility in buses equipped with lifts for transporting disabled students. In most Type I school buses, there is a student seat just behind the service door. FMVSS's require that this type of barrier has to be installed in front of any student seat which does not have another student seat in front of it. In the case of a bus for the disabled, a wheelchair lift may be installed in the right side of the bus and no student seat between the lift and the steps to the service door. In such cases, a barrier/stanchion is not required by FMVSS's. The concern among transportation people is that students might move through this barrier/stanchion area and fall into the step well from the side. Serious injuries could occur, especially to mobility impaired students. The requirement for such a barrier/stanchion would be applicable to only a small number of buses. The cost, statewide, should be minimal in relation to the improved level of safety.

3520.5461 STIRRUP STEPS. This section is deleted. The requirement for stirrup steps has been in the rule for many years. They were used to allow drivers to better reach the windshield, front lamps and other areas. It is now felt that these stirrup steps are not needed. There are other, better ways for drivers to clean off lights and windshields. Many fleets have automatic bus washers and there are devices available with long handles to reach difficult areas.

Stirrup steps also create their own hazards. The step can be a projection that can injure students and others. Clothing can be caught on them. Drivers can slip off or misstep and be injured. Worker's compensation claims can result. The requirement has been deleted for all of these reasons. It is reasonable to delete the requirement for an item that has outlived its usefulness and may, in fact, present hazards.

3520.5520 VENTILATION. Subp. 1 is amended by deleting the second paragraph. This paragraph required that any "static-type exhaust roof ventilators" had to be installed in a "low pressure" area of the roof. The committee working on these revisions had a difficult time trying to define what was meant by "low pressure" area. Even engineers from school bus manufacturers did not agree what was meant.

Subp. 4, the first paragraph, is amended by striking old language and adding new language. The wording "beyond the rear axle" is deleted. Minnesota may be the only state which had this requirement. In other states, rules require that the rear ventilator has to be installed behind the rear axle. Some problems have been encountered with buses being furnished with ventilators partially behind and partially in front of the rear axle.

The new wording prohibits the rear ventilator from being within 3 feet of the rear of the bus. It cannot be behind any strobe lamp. These changes make the placement of the roof ventilator easier to understand and to check. The length of rear overhang of the bus is not a factor. If a strobe lamp is installed, it must be behind the ventilator. This is a reasonable way to address the issue of rear roof ventilators because the revised rule is easier to understand and implement.

3520.5551 WINDSHIELD AND WINDOWS. Subp. 3 is amended. The first sentence, which required clear glass in certain windows, is deleted. The second sentence is amended by deleting "approved" and inserting "as approved by M.S. 169.71" to more clearly define what type of glass is to be considered approved. This sentence is further amended with added language to state which windows can be of approved tinted glass. There was a great deal of discussion in rules meetings about the advantages and disadvantages of both clear and tinted glass. The consensus was that, for the greatest visibility, the first window behind the service door should be clear. The use of tinted glass is not required, so changes in this area will not have a great economic impact for school districts or contractors.

Subp. 4 is a new heading given to the second paragraph of the old Subp. 3. It is believed to be desirable to separate this sentence, which sets the minimum size of side window openings, from the other part of Subp. 3 which deals with clear and/or tinted glass.

Subp. 5 Thermal glass is added. For safety and maximum visibility in severe winter weather conditions, thermal glass is required in the windows to the left of the driver and in the upper service door. Thermal, or insulated, glass is designed to minimize frosting even in severe temperatures.

3520.5580 WIRING. In the 5th paragraph of Subp. 2, an amendment is made by deleting a word and adding new language. The word "with" is replaced with "by." The wiring diagram will be furnished by the bus body manufacturer. This more clearly states who is to provide the diagram. Wording is also added to clarify that the diagram does not need to be attached to the school bus body. These changes were taken from the National Standards.

3520.5611 EQUIPMENT. Subp. 11 is amended by adding an Option. This option allows the first aid kit to be stored outside the driver's compartment if a proper label is provided to indicate the location of the first aid kit. This rule applies to Type II school buses which are smaller than Type I buses. Often Type II buses have a smaller driver compartment and it is difficult to find a proper place for the first aid kit. This is a reasonable method of dealing with a problem which is caused by conditions which cannot be easily changed.

Subp. 14 is amended a sentence. Subp. 14 details the exceptions to the Type I rules for glazing. It is needed because the configuration of some Type II school buses makes it impossible for them to comply with the Type I requirement for thermal glass. Without this change, many of the Type II school buses would not pass inspection.

Subp. 30 Windows is deleted. This subpart covered windows and tied their characteristics with those of Type I school bus windows. There was also an exception to the Type I standards. The window requirement for Type I school buses is revised above (3520.5551). The Type II school bus windows will now comply with the Type I window rule.

3520.5900 CONSTRUCTION OF VEHICLES FOR CHILDREN WITH MOBILITY PROBLEMS. Subp. 4 is deleted. When the rules were last revised, it was believed necessary to require a seating capacity statement inside the bus. Today, more buses are being furnished with track seating anchors in the floor so that passenger capacity can be easily changed. Having the capacity required to be displayed inside the bus would create problems for changing the seating configuration and capacity.

Subp. 15 is amended by deleting the word "master" as it pertains to the cut-off switch. A master cut-off switch has a different meaning than intended here. Such a switch would cut off all electricity in the vehicle. This would not be desirable in this situation. By removing the word "master", we more clearly indicate that the cut-off switch is for the power lift only. New wording is added to clearly indicate that the cut-off switch can be located at the lift door as well as in the driver's compartment. These changes will avoid confusion and promote safety.