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TO: Members, State Board of Education

FROM: Kimberley Harrington
Commissioner

SUBJECT: N.J.A.C. 6A:27-7.13

REASON
FOR ACTION: Adoption of proposed new rules with substantive changes

AUTHORITY: N.J.S.A. 39:3B-26

SUNSET DATE: February 18, 2021

Attached are the adoption materials related to the proposed amendments and new rules at N.J.A.C. 6A:27 that will establish rules implementing Abigail's Law (P.L. 2015, c. 266; N.J.S.A. 39:3B-26). The proposed rules will effectuate the law, which requires school buses manufactured on or after July 17, 2016, to be equipped with a sensor "to determine the presence of objects in the front or back of the bus."

The Department of Education (Department) is proposing to adopt the rules as presented in the notice of proposed substantial changes with one grammatical amendment.

On May 3, 2017, the State Board approved for publication in the New Jersey Register the notice of proposed substantial changes, which included a number of changes in response to comments received about the originally proposed amendments and new rules. The notice of proposed substantial changes, which included a summary of only the comments that prompted the changes and the agency responses, was published in the June 5, 2017, New Jersey Register (49 N.J.R. 1291(a)) and the comment period ended August 4, 2017. The notice of proposed substantial changes can be found [online](#).

The attached Adoption Level comment-response form contains the following three sets of comments: comments received during initial comment period giving rise to substantial changes in proposal upon adoption (already presented to the State Board and published in the New Jersey Register); comments received during initial comment period not giving rise to changes in the rule proposal; and comments received about the notice of proposed substantial changes upon adoption to proposed new rules at N.J.A.C. 6A:27-7.13. Following the comment-response form is the rule text as presented at Adoption Level.

Lastly, the materials include the original rulemaking's summary, which was not altered to reflect the changes proposed in the subsequent notice because the summary is not republished as part of the rulemaking process. This summary and the rules as originally proposed can be found [online](#).

**STATE BOARD OF EDUCATION
ADMINISTRATIVE CODE
COMMENT/RESPONSE FORM**

Topic:	Student Transportation	Meeting Date:	September 13, 2017
Code Citation:	N.J.A.C. 6A:27-7.13	Level:	Adoption
Division:	Finance	Completed by:	Office of School Finance

Summary of Comments and Agency Responses

Comments on the original notice of proposal were received from the following commenters, some of whom also commented on the amendments in the notice of proposed substantive changes:

1. Pete Kallgren, Vice President of Sales and Marketing
Rostra Precision Controls Inc.
2. Joe Labonte, Chairman
School Bus Manufacturers Technical Council
3. Michael Ott, School Bus Sales
Wolfington Body Company
4. James Anderson
Van Con Inc.
5. Pam Shadel Fisher, Principal
Pam Fischer Consulting
6. Michael A. Vrancik, Director of Governmental Relations
New Jersey School Boards Association

Comments Received During Initial Comment Period Giving Rise to Substantial Changes in Proposal upon Adoption

1. **COMMENT:** The commenter stated the definition of “sensor system” proposed in N.J.A.C. 6A:27-7.13(a)2 should not be limited to a specific technology, and suggested that any system meeting the performance requirements should be permitted. (2)

RESPONSE: The Department agrees. The Department proposes in the definition for “sensor system” at N.J.A.C. 6A:27-7.13(a)2 to add “technology such as, but not limited to” after “means a system utilizing.” The proposed amendment will permit the use of additional technologies that meet the other criteria specified in the section. Please see the Response to Comment 2 for the full rule text.

2. **COMMENT:** The commenter suggested formerly proposed N.J.A.C. 6A:27-7.13(a)2 should define a minimum height and shape of the person(s) or object(s) the system must be designed to detect. The commenter recommended the criteria in the National Highway Traffic Safety Administration (NHTSA) Federal Motor Vehicle Safety Standard (FMVSS) 111 (49 CFR Part 571.111) be used for the front sensor (a 12-inch high by 12-inch diameter

cylinder), and the Final Rule for FMVSS 111 Rear Visibility be used for the rear sensor (a 32-inch high by 12-inch diameter cylinder). (1, 2)

RESPONSE: The Department agrees the dimensions need to be defined. The Department proposes new N.J.A.C. 6A:27-7.13(a) to require the system to be able to detect a person or object as measured by the placement of a 12-inch high by 12-inch diameter cylinder in the front and rear of the school bus.

The proposed dimensions are based on the criteria found in FMVSS 111 (49 CFR Part 571.111) and would apply to both the front and rear sensor areas. The Department proposes adopting the criteria in this standard rather than the Final Rule for FMVSS 111 Rear Visibility because the Final Rule is extremely limited in its focus and application (i.e. it applies only to small vehicles and video-only sensors). The FMVSS 111 provides a more stringent standard than the one found in the Final Rule (requiring the detection of a 12-inch high cylinder, as opposed to a 32-inch high cylinder) and would be more consistent and universal in its application (that is, more easily adapted for use on all sizes of school buses, as well as sensor systems using different types of technology).

3. **COMMENT:** The commenter recommended the Department define, in former N.J.A.C. 6A:27-7.13(a)2, the specific detection area of the sensor system. (2)

RESPONSE: The Departments agrees and proposes N.J.A.C. 6A:27-7.13(a)1 and 2 to define the required detection area of the sensor system for vehicles with a GVWR of 10,000 pounds or less, and for vehicles with a GVWR over 10,000 pounds, respectively.

4. **COMMENT:** The commenters requested clarification at N.J.A.C. 6A:27-7.13(a)2 to specify whether the sensor system must detect stationary or moving objects. (2)

RESPONSE: The Department agrees that clarification is needed. The proposed changes to N.J.A.C. 6A:27-7.13(a)2, discussed above, include language that requires the sensor system to detect “the presence of a person(s) or object(s)” of a specific dimension within the specific area of detection. The inclusion of “the presence of” clarifies the system must detect any person or object meeting the criteria regardless of whether the person or object is stationary or moving.

5. **COMMENT:** The commenter stated the requirement at N.J.A.C. 6A:27-7.13(c) for an audible or visual alert to be used in addition to a video monitor system is unnecessary and suggested it be removed. The commenter cited the NHTSA research and conclusions in the Final Rule for FMVSS 111 Rear Visibility, which indicates that video-only systems without an audible alert consistently outperform sensor-only systems. (2)

RESPONSE: The Department’s original notice of proposal would have required an audible alert to be used with a video monitor system to alert the driver’s attention in case his or her attention is diverted from the screen. Based on NHTSA’s research and conclusions summarized by the commenter, the Department proposes amendments at N.J.A.C. 6A:27-7.13(c) and (c)1 to remove the requirement for a video monitor system to include an audible alert.

6. **COMMENT:** The commenter requested clarification at N.J.A.C. 6A:27-7.13(d) regarding the sensor system’s activation and deactivation protocols: specifically, when the rear

detection system must be activated and deactivated in relation to the other vehicle safety systems and the front detection system. The commenter stated the requirement for the front system to be activated in conjunction with one of the other vehicle safety systems may not be adequate because there may be circumstances where the sensor system should be activated but not the other systems. Lastly, the commenter expressed concern that activation of both the front and rear systems at the same time may confuse the driver as to the location of the person(s) or object(s) in relation to the school bus. (2)

RESPONSE: The Department agrees the sensor system’s activation and deactivation protocols need to be clarified and that separate requirements for the front and back sensors are necessary. In response, the Department proposes amendments at N.J.A.C. 6A:27-7.13(d) to require the rear detection system to be activated only when the transmission is in the reverse gear and to be deactivated in any gear other than reverse. The Department also proposes new N.J.A.C. 6A:27-7.13(e), (e)1 and 2, and (e)2i and ii to differentiate the requirements for the front sensor system.

The Department proposes amendments to clarify the front sensor system must activate “every time any passenger entrance door opens.” The Department further proposes to add minimum requirements for the delay of the front sensor system’s deactivation: whenever the set vehicle speed reaches a minimum of 10 miles per hour or a minimum time delay of 10 seconds.

Because both the front and rear sensors will not be activated at the same time, there should be no confusion concerning the location of the person(s) or object(s) in relation to the bus.

7. **COMMENT:** The commenter suggested N.J.A.C. 6A:27-7.13(d)1 prohibiting dual-technology systems be removed. The commenter stated certain technologies (for example, sensor fusion systems) that are more accurate and reliable than technologies operating with a single technology system may eventually be developed. (2)

RESPONSE: The Department agrees, and proposes to delete the prohibition of dual technology systems at N.J.A.C. 6A:27-7.13(d)1.

Comments Received During Initial Comment Period Not Giving Rise to Changes in the Rule Proposal

8. **COMMENT:** The commenter stated the proposed language at N.J.A.C. 6A:27-7.13(b) requiring “a sensor system” to be installed “in the front and rear of the bus” changes the statutory requirement, which mandates only “a sensor” to be installed on the “front or back of the bus.” The commenter stated the proposed rule would increase the requirement from only one sensor in either the front or rear of the bus to two sensors (one in the front and one in the rear of the bus). (4)

RESPONSE: The Department disagrees. Since N.J.S.A. 39:3B-26 states that each school bus “shall be equipped with a sensor to determine the presence of objects in the front or back of the bus,” sensors are required in both locations.

9. **COMMENT:** The commenter disagreed with the requirements at N.J.A.C. 6A:27-7.13(d) as they will apply to small school vehicles. The commenter expressed concern that small school vehicles for nine or fewer passengers will be unable to comply with this subsection since small school vehicles do not have the vehicle safety systems (that is, warning lights

or alarms, crossing control arm, or signal stop arm) to which the sensor system can connect to activate it. (3)

RESPONSE: The Department disagrees since the requirement also will permit activation by the passenger entrance door, without the activation of any safety system. In addition, the Department has proposed substantive changes to the proposed provision to simplify the issue. The proposed substantive changes at N.J.A.C. 6A:27-7.13(e)2 to simply requiring the front sensor to activate “after all passenger doors are closed” for all school vehicles, regardless of size.

10. **COMMENT:** The commenter stated that N.J.A.C. 6A:27-7.13(d), which would govern the activation and deactivation of the front sensor system, requires more thought and discussion before being finalized. (2)

RESPONSE: The proposed substantive changes at N.J.A.C. 6A:27-7.13(d) and (e) clarify the separate activation and deactivation protocols for both the rear and front sensors. Therefore, the Department disagrees that further discussion is needed.

11. **COMMENT:** The commenter expressed concern regarding the legislative process and stated manufacturers were not notified prior to the law being passed. (4)

RESPONSE: The legislative process is beyond the scope of this rulemaking.

12. **COMMENT:** The commenters expressed concern the proposed rules do not address the impact of certain environmental conditions on the performance standards or maintenance requirements of the sensor system. The commenters referenced conditions such as dirt or mud on the sensor, extreme low or bright light (for example, dawn/dusk or the sun on the horizon), and weather/precipitation (for example, rain, snow, fog). (1, 5)

RESPONSE: The proposed rules do not include such issues because each system has specific maintenance requirements, as well as inherent strengths and weaknesses with regard to certain environmental/weather conditions. District boards of education and contractors should select the system that best suits their needs, and are responsible for ensuring installation and maintenance are in accordance with the manufacturer’s standards.

13. **COMMENT:** The commenter expressed concern the regulations do not address the procedures to be followed by the driver in the event the sensor is activated. The commenter suggested the Department amend the rules to require the driver to leave the bus to physically inspect the area of the activated sensor. (5)

RESPONSE: The commenter’s recommendation is beyond the scope of this rulemaking. The purpose of the proposed section is to establish the performance standards for the school bus sensor system. Any requirement(s) regarding bus driver training or procedures for drivers and aides would be addressed in N.J.A.C. 6A:27-11, Safety, or 6A:27-12, Drivers and Aides. In addition to other training requirements in the subchapters, N.J.A.C. 6A:27-11.3(c) requires employers to administer a safety education program for school bus drivers that includes defensive driving techniques and railroad crossing procedures. The Department may consider in a future rulemaking an amendment to require employers to adopt procedures for when the sensor system is activated.

14. **COMMENT:** The commenter expressed concern that the proposed rules do not address the need to educate the school community and the general public with regard to the safety

sensors. (5)

RESPONSE: This issue is beyond the scope of this rulemaking. District boards of education are responsible for providing a safety education program that includes pedestrian safety and rules for riding the school bus in accordance with N.J.A.C. 6A:27-11.4. It is beyond the Department's authority to educate the general public regarding general traffic rules and procedures. This responsibility is under the jurisdiction of the New Jersey Motor Vehicle Commission and the New Jersey Division of Highway Traffic Safety Administration.

15. **COMMENT:** The commenter expressed concern regarding the economic impact the law will have on school districts. The commenter also urged the Department to provide funding to pay for the mandated school bus sensors. (6)

RESPONSE: The proposed new rules may increase the cost for new school buses. However, State aid to a school district includes transportation aid, which covers a portion of the school district's annual transportation costs. Transportation aid allocations are determined according to statute and annual budget appropriations; the Department does not have the authority to appropriate State aid through the rulemaking process.

16. **COMMENT:** The commenter asks if the Department will provide guidance to manufacturers that produced buses after the July 17, 2016, effective date of the law, but before the effective date of the proposed regulations and to the school districts that purchased the buses. (6)

RESPONSE: The Department issued [guidance](#) on May 24, 2016, in a broadcast to chief school administrators. The guidance stated that the Department is in the process of drafting proposed regulations and "at this time ... school bus manufacturers should comply with the statute's requirements as they see fit." The proposed N.J.A.C. 6A: 27-7.13(b) will require that school buses manufactured after six months after the section's effective date must be equipped with a sensor system as defined in the section. Manufacturers should follow the guidance for buses manufactured prior to the required date but after the effective date of the statute.

Comments Received About the Notice of Proposed Substantial Changes upon Adoption to Proposed New Rules at N.J.A.C. 6A:27-7.13

17. **COMMENT:** The commenter expressed concern about the height requirements of the detection cylinders specified in N.J.A.C. 6A:27-7.13(a) because the sensor detection is intended for humans and not objects. Therefore, the commenter stated the height of the detection cylinder should be 32 inches high for both front and rear sensors. (1)

RESPONSE: The Department disagrees. N.J.S.A. 39:3B-26 clearly states that each school bus "shall be equipped with a sensor to determine the presence of objects in the front or back of the bus." The proposed language at N.J.A.C. 6A:27-7.13(a) will require a cylinder height of 12 inches for both the front and rear sensors to ensure the detection of a small child who may not be standing upright (for example, the child could have fallen or bent down to pick up something).

The State Motor Vehicle Commission (MVC) concurs the standard should be 12 inches in the front and rear of the bus as established National Highway Traffic Safety Administration's (NHTSA) Federal Motor Vehicle Safety Standard (FMVSS) 111 CFR

Part 571.111. The Department proposed adopting this standard rather than the 32 inches found in Final Rule for FMVSS 111 Rear Visibility because the Final Rule is extremely limited in its focus and application (that is, it applies only to small vehicles and video-only sensors). The FMVSS 111 provides a more stringent standard than the one found in the Final Rule (that is, the detection of a 12-inch high cylinder vs. a 32-inch high cylinder) and would be more consistent and universal in its application (that is, more easily adapted for use on all sizes of school buses, as well as sensor systems using different types of technology).

- 18. COMMENT:** The commenter expressed concern about the height requirements of the detection cylinders specified in N.J.A.C. 6A:27-7.13(a) and suggested the cylinder height should be 12 inches high only for the front sensor and 32 inches high for the rear sensor. **(2)**

RESPONSE: The Department disagrees. The proposed language at N.J.A.C. 6A:27-7.13(a) will require a cylinder height of 12 inches for both the front and rear sensors to ensure the detection of a small child who may not be standing upright (for example, the child could have fallen or bent down to pick up something).

MVC concurs the standard should be 12 inches in the front and rear of the bus as established NHTSA FMVSS 111 CFR Part 571.111. The Department proposed adopting this standard rather than the 32 inches found in Final Rule for FMVSS 111 Rear Visibility because the Final Rule is extremely limited in its focus and application (that is, it applies only to small vehicles and video-only sensors). The FMVSS 111 provides a more stringent standard than the one found in the Final Rule (that is, the detection of a 12-inch high cylinder vs. a 32-inch high cylinder) and would be more consistent and universal in its application (that is, more easily adapted for use on all sizes of school buses, as well as sensor systems using different types of technology).

- 19. COMMENT:** The commenter stated the requirement in N.J.A.C. 6A: 27-7.13(a) to detect stationary objects will render traditional sensor systems ineffective, and recommended that focusing only on moving objects would help minimize “false positive” alerts. **(1)**

RESPONSE: The Department disagrees that the proposed rule will render traditional sensor systems ineffective since it does not specify how the stationary object must be detected. The slightest movement of the school bus would signal the alert of a traditional sensor system that a stationary person or object is in the detection area. Also, a person could be stationary (for example, someone who has fallen or is unconscious) and the sensor must be capable of detecting the person and signaling an alert to the driver. Lastly, N.J.S.A. 39:3B-26 does not limit the detection criterion to moving persons or objects.

- 20. COMMENT:** The commenter suggested changing the definition of “sensor system” to include the following examples: camera(s), ultrasonic, microwave, and smart-camera. **(2)**

RESPONSE: The Department disagrees with the recommendation to add examples of sensor systems. The proposed definition does not include every type of technology, but provides an example some of the systems currently available while also permitting other current and future technologies to be used.

- 21. COMMENT:** The commenter suggested a change at N.J.A.C. 6A:27-7.13(a)1 and 2 to define the sensor system detection area relative to the vehicle’s width because the sensor system detection area should extend one foot laterally to each side of the vehicle width as

defined in FMVSS 108, regardless of the vehicle's Gross Vehicle Weight Rating (GVWR), school bus type, and overall width. (NOTE: FMVSS 108 states, "Overall width means the nominal design dimension of the widest part of the vehicle, exclusive of signal lamps, marker lamps, outside rearview mirrors, flexible fender extensions, mud flaps, and outside door handles determined with doors and windows closed, and the wheels in the straight-ahead position. Running boards may also be excluded from the determination of overall width if they do not extend beyond the width as determined by the other items excluded by this definition"). (2)

RESPONSE: The Department disagrees that the detection area should be defined as extending only one foot laterally to each side of the vehicle width as defined in FMVSS 108 for of the following reasons: 1) the Department's proposed detection areas measuring five feet (for vehicles with a GVWR of 10,000 pounds or less) or 10 feet (for vehicles with a GVWR of 10,000 pounds or more) laterally to each side from the center of the vehicle's front and rear bumpers will allow for differences in vehicle types and widths; 2) the definition of "overall width" in FMVSS 108 excludes various parts of the school bus from inclusion in the vehicle width (for example, outside mirrors and fender extensions), which should be included to prevent any part of the school bus from hitting a person or object; and 3) the suggested range of one foot on either side of the school bus would allow sufficient driver reaction time, since a person could go from being completely undetected to being directly in front of the school bus with a single step.

22. **COMMENT:** The commenter suggested the Department apply the proposed deadline in N.J.A.C. 6A:27-7.13(b) to all school buses manufactured one year after adoption, instead of the six months after adoption currently proposed. (2)

RESPONSE: The Department disagrees. N.J.S.A. 39:3B-26 was signed in January 2016 and required all school buses manufactured after July 17, 2016, to be equipped with a sensor system. Sensor systems that could be installed on school buses currently are available from companies that specialize in the manufacture of such systems. The Department maintains that the six month grace period after the adoption of the proposed rules is sufficient to allow school bus and sensor system manufacturers and dealers time to install the systems on newly manufactured buses. Any further delay in the implementation of the law is unnecessary and potentially hazardous.

23. **COMMENT:** The commenter suggested amending N.J.A.C. 6A:27-7.13(c), which will require the sensor system to include an audible and visual alert signal placed in the driver's compartment to alert the driver when a person(s) or object(s) is detected within the sensor's designated area or a video monitor placed in the driver's compartment relaying the image of the sensor's designated area, by replacing "video monitor" with "camera" and "area" with "field of view," respectively. The commenter also recommend adding the following provision: "The monitor shall not inhibit the driver's field of view through the windshield, to all mirrors, and the step well." (2)

RESPONSE: The Department disagrees with the recommended amendments. "Video monitor" is an industry term that more accurately describes the sensor's function (a video monitor must show the designated area in real time; whereas a camera may not do so). Also, the video system monitor is placed in the driver's compartment, whereas the system's viewing lens may be placed elsewhere to focus on or view the designated area. In addition, the requirement applies only to the designated area. Since the field of view may not be equivalent to the designated area, the terminology in the proposed rule is more accurate.

The proposed rule clearly requires the system's field of view to include the designated area; the field of view may show more than the designated area but not less.

The suggested additional provision concerning the monitor not inhibiting the driver's view is unnecessary since an MVC inspection standard requires the driver's view to be unimpeded. For this reason, no equipment is permitted to cover any mirror, glazing (windows), lights, or reflectors, interfere with doors or windows, or prevent the operation of safety equipment.

24. **COMMENT:** The commenter suggested amendments at N.J.A.C. 6A:27-7.13(c) to replace "sensor system" with "electronic (non-camera) sensor systems" and "alert signal" with "alert signaling module." (2)

RESPONSE: The Department disagrees with the recommended amendments. Proposed N.J.A.C. 6A:27-7.13(c) is clear in that two types of systems are being addressed. The requirement for an audio and visual alert signal will apply to the non-video (sensor-only) system but not to the video monitor (video-only) system. The requirement is further clarified in N.J.A.C. 6A: 27-7.13(c)2, which states: "The alert signal shall identify for the driver the location near the vehicle in which the person(s) or object(s) is detected, except when a video monitor is used."

25. **COMMENT:** The commenter suggested amending N.J.A.C. 6A:27-7.13(c)1, which requires the audible alert signal for the sensor to be a sound that is distinctive from all other audible alert signals, to replace "audible alert signal for the sensor" with "electronic sensor audible alert" and "all other audible alert signals" with "all other alert signals," respectively. (2)

RESPONSE: The Department disagrees that amendments are necessary. The proposed provision is not intended to limit the type of alert signal (that is, electronic). Since the proposed rule addresses only the audible alert required for the system, the current use of "other audible alert" is more clear and specific than the commenter's suggestion of "other alert."

26. **COMMENT:** The commenter expressed concern that N.J.A.C. 6A:27-7.13(c)2 exempts video monitor systems from requiring an audible alert because it changes the detection strategy from active to passive. The commenter cautioned that a passive video system may draw the driver's attention to the monitor and away from normal driving procedures. (1)

RESPONSE: The Department disagrees the proposed language changes the detection strategy since it permits the use of both active (sensor-only) and passive (video-only) sensor systems.

The Department proposed an amendment in the notice of proposed substantive change to remove the requirement for video monitor systems to include an audible alert based on the NHTSA's research and conclusions in the Final Rule for FMVSS 111 Rear Visibility. Research indicates video-only systems without an audible alert consistently outperform sensor-only systems. MVC concurs with the NHTSA's findings and with the Department's proposal to remove the requirement for video-only systems. In addition, sensor-only systems typically come equipped with an audio and/or visual alert system since they use the same type of technology. As the commenter indicated, video sensors employ a different type of technology than their sensor-only counterparts. Consequently, mandating an audio alert for these systems could require two parallel systems to be

installed, which would significantly increase the cost. The additional cost could deter school districts and contractors from choosing a video system, despite the research demonstrating better performance.

27. **COMMENT:** The commenter suggested replacing proposed N.J.A.C. 6A:27-7.13(c)2, which will require the alert signal to identify for the driver the location near the vehicle in which the person(s) or object(s) is detected, except when a video monitor is used, with: “The visual alert shall identify to the driver, the location of person(s) or object(s) near the vehicle.” (2)

RESPONSE: The Department disagrees with the suggested amendments. The proposed rule is clear and will not restrict the alert signal to a visual alert since an audible alert will also be permitted to indicate the location of the person or object. In addition, the proposed rule exempts the requirement for an alert (whether visual or audible) when a video monitor is used for the reasons stated in Comment 26.

28. **COMMENT:** The commenter suggested an amendment at N.J.A.C. 6A:27-7.13(d), which will require the rear sensor system to only and always activate with the engagement of reverse gear and shall deactivate when the reverse gear is disengaged, to replace “shall only and always activate” with “shall activate only and always.” (2)

RESPONSE: The Department agrees the change will improve grammar and clarity, and proposes the recommended amendment at adoption. N.J.A.C. 6A:27-7.13(d) will read as follows:

- (d) **The rear sensor system shall activate only and always [[activate]] with the engagement of reverse gear and shall deactivate when the reverse gear is disengaged.**

Note: The rule text provided above reflects the progression of the rule proposal. The rule text included in the administrative code portion of this document reflects the rule as it is being put forth at Adoption Level.

29. **COMMENT:** The commenter suggested an amendment at proposed N.J.A.C. 6A:27-7.13(e), which will require the front sensor system to activate in any gear other than reverse gear every time any passenger entrance door opens, to replace “every time any” with “whenever a.” (2)

RESPONSE: The Department disagrees. The proposed language more clearly indicates the statement does not apply only to conventional yellow school buses, which typically have only one entrance door, but also to small school vehicles, which often have more than one passenger entrance door. The Department’s intention in proposing the rule is to ensure that front system activates every time any passenger door opens.

30. **COMMENT:** The commenter recommended an amendment at N.J.A.C. 6A:27-7.13(e)2, which, in part, will require the front sensor system to deactivate when in any gear other than reverse after all passenger doors are closed, to replace “passenger” with “entrance.” (2)

RESPONSE: The Department disagrees. As stated in the response to Comment 29, the proposed rule as written clearly indicates that the provision applies not only to conventional

yellow school buses, which typically have only one “entrance” door, but also to small school vehicles, which often have more than one “passenger” door.

- 31. COMMENT:** The commenter suggested amendments at N.J.A.C. 6A:27-7.13(e)2 to require an “all clear” confirmation to deactivate the system instead of the currently proposed vehicle speed of 10 miles per hour (mph) or the elapse of 10 seconds after closure of the passenger door(s). The commenter stated the confirmation would require the closure of the front crossing arm, front door, and stop arm to trigger deactivation. **(1)**

RESPONSE: The Department disagrees that the suggested “all clear” requirements for deactivation would be more effective than the currently proposed 10 mph or 10-second delay. All safety systems on a school bus (that is, red warning lights, crossing control arm, and stop arm) are directly or indirectly connected to the entrance door. All of the systems would shut down when the entrance door closes, resulting in the sensor system’s deactivation. The proposed rule will require the sensor system to remain active for 10 seconds after all other systems are no longer activated and the school bus has begun to move to ensure that any person or object in or reentering the detection area (for example, a student retrieving a dropped item) triggers an alert to the driver. Small school vehicles, which do not have the same safety systems as a school bus (red warning lights, crossing control arm, or stop arm) and may have more than one entrance door, are also required to be equipped with a sensor system. The Department maintains that the proposed rule will achieve the desired delay from deactivation and accommodate all types and sizes of school buses.

- 32. COMMENT:** The commenter recommended amendments at N.J.A.C. 6A:27-7.13(e)2 to reduce the speed delay to five mph from the current proposed 10 mph. The commenter also suggested a timed delay of five seconds instead of the proposed 10 seconds, but only when a speed deactivation is not available. **(2)**

RESPONSE: The Department disagrees that the proposed speed delay of 10 mph and time delay of 10 seconds should be reduced. The proposed time delay range from 7 to 10 seconds was recommended by MVC, and the proposed speed delay of 7 to 10 mph was determined in consultation with MVC to allow more flexibility in determining the method of delay to deactivation. The Department chose the greatest speed and time within that range to permit the system to remain activated, thereby alerting the driver for a slightly longer period. The Department also disagrees the timed deactivation should be permitted only when a speed deactivation is not available. Manufacturers using different types of technology may choose one form over another to accommodate a particular system. Since specific conditions for school districts and contractors may differ widely (for example, city vs. highway driving), they should be allowed to choose the system and form of deactivation that best suits their particular needs.

- 33. COMMENT:** The commenter expressed concern regarding the economic impact the law will have on school districts. The commenter also urged the Department to provide funding to pay for the mandated school bus sensors. **(6)**

RESPONSE: As indicated in the response to Comment 15, the proposed new rules may increase the cost for new school buses. However, State aid to a school district includes transportation aid, which covers a portion of the school district’s annual transportation costs. Transportation aid allocations are determined according to statute and annual budget appropriations; the Department does not have the authority to appropriate State aid through the rulemaking process.

34. **COMMENT:** The commenter stated the rules for sensor systems should be amended to include training requirements for drivers. The commenter also recommended the Department adopt testing criteria and maintenance guidelines. (2)

RESPONSE: These issues are beyond the scope of this rulemaking. The purpose of the proposed rules is to establish performance standards for a school bus sensor system. Training and procedural requirements for school bus drivers and aides are addressed in N.J.A.C. 6A:27-11, Safety, and 6A:27-12, Drivers and Aides. In addition to other training requirements in the subchapters, N.J.A.C. 6A: 27-11.3(c) requires employers to administer a safety education program for school bus drivers that includes defensive driving techniques and railroad crossing procedures. The Department may consider in a future rulemaking an amendment to require employers to adopt procedures for when the sensor system is activated.

It also is beyond the Department's authority to develop testing criteria for the multitude of sensor systems available. The responsibility for testing systems for compliance with the final performance standards rests with the MVC. Lastly, it is the responsibility of school districts and contractors to ensure the systems are installed and maintained according to manufacturer's standards.

35. **COMMENT:** The commenter opposed requiring sensor systems because of limitations in detection reliability, the required maintenance, the sensor system's potential to distract the driver from the front of the bus and mirrors, and the potential for drivers to ignore system alerts after likely receiving multiple false positive alerts. (2)

RESPONSE: The Department acknowledges there are inherent limitations to the technology in various systems, including certain sensor-only systems. The Department's proposal does not mandate or exclude any particular type of system technology, but establishes performance-based standards while permitting school districts and contractors the widest latitude in determining the system that best suits their needs.

N.J.A.C. 6A:27, STUDENT TRANSPORTATION

SUBCHAPTER 7. VEHICLE USE AND STANDARDS

6A:27-7.13 School bus sensor system

CHAPTER 27. STUDENT TRANSPORTATION

SUBCHAPTER 7. VEHICLE USE AND STANDARDS

6A:27-7.13 School bus sensor system

- (a) The following words and terms shall have the following meanings when used in this section, unless the context clearly indicates otherwise:

“School bus” means as set forth in N.J.S.A. 39:1-1.

“Sensor system” means a system utilizing technology such as, but not limited to, radar, video, sound, or infrared technology that shall be capable of detecting the presence of a person(s) or object(s) as measured by the placement of a 12-inch high by 12-inch diameter cylinder within a minimum area defined as follows:

1. For vehicles with a GVWR of 10,000 pounds or less, five feet laterally to each side and extending 10 feet frontward from the center of the vehicle’s front bumper, and five feet laterally to each side and extending 10 feet rearward from the center of the vehicle’s rear bumper; or
 2. For vehicles with a GVWR over 10,000 pounds, 10 feet laterally to each side and extending 10 feet frontward from the center of the vehicle’s front bumper, and 10 feet laterally to each side and extending 10 feet rearward from the center of the vehicle’s rear bumper.
- (b) Every school bus, as defined in this section, manufactured after (*six months after the effective date of this section*), shall be equipped with a sensor system as defined in this section.
1. This subsection shall not be construed to prohibit the equipping of a school bus with a sensor system to determine the presence of a person(s) or object(s)

in the side areas of the school bus, in addition to the front and rear of the bus.

(c) The sensor system shall include an audible and visual alert signal placed in the driver's compartment to alert the driver when a person(s) or object(s) is detected within the sensor's designated area or a video monitor placed in the driver's compartment relaying the image of the sensor's designated area.

1. The audible alert signal for the sensor shall be a sound that is distinctive from all other audible alert signals on the bus.

2. The alert signal shall identify for the driver the location near the vehicle in which the person(s) or object(s) is detected, except when a video monitor is used.

(d) The rear sensor system shall activate only and always with the engagement of reverse gear and shall deactivate when the reverse gear is disengaged.

(e) The front sensor system shall activate in any gear other than reverse gear every time any passenger entrance door opens. The front sensor system shall deactivate:

1. With the engagement of reverse gear; and

2. When in any gear other than reverse, after all passenger doors are closed and:

i. The vehicle has reached a speed of 10 miles per hour; or

ii. Ten seconds have elapsed after closure of the passenger door(s).



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CHRIS CHRISTIE
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Adoption Level
September 13, 2017
KIMBERLEY HARRINGTON
Commissioner

TO: Members, State Board of Education
FROM: Kimberley Harrington
Commissioner
SUBJECT: N.J.A.C. 6A:27, Transportation
AUTHORITY: N.J.S.A. 39:3B-26
REASON FOR ACTION: New rules
SUNSET DATE: October 7, 2020

Summary

The Department of Education (Department) proposes to amend N.J.A.C. 6A:27, Student Transportation, as noted in this Summary.

The Legislature passed and Governor Christie in January enacted A-1455, which requires school buses manufactured on or after July 17, 2016, to be equipped with a sensor “to determine the presence of objects in the front or back of the bus.” The law, P.L. 2015, c. 266 (N.J.S.A. 39:3B-26), requires the State Board of Education, in consultation with the Chief Administrator of the New Jersey Motor Vehicle Commission in the Department of Transportation, to promulgate rules to effectuate the act’s provisions.

The following summary provides an overview of the proposed new rules:

Subchapter 7. Vehicle Use and Standards

N.J.A.C. 6A:27-7.13 School bus sensor system

The Department proposes N.J.A.C. 6A:27-7.13(a) to define “school bus” and “sensor system” specific to their use in the section. School bus to mean as set forth in N.J.S.A. 39:1-1, which includes all school vehicles used for transporting students. Sensor system means a system utilizing radar, video, sound, or infrared technology to detect the presence of a person(s) or object(s) within a minimum of a 10-foot radius in the front and rear of the school bus. The

minimum radius is based on the National Highway Traffic Safety Administration's "school bus danger zone" definition.

The Department proposes N.J.A.C. 6A:27-7.13(b) to require a school bus manufactured on or after July 17, 2016, to be equipped with a sensor system to detect the presence of a person(s) or object(s) in the front and rear of the bus. Proposed N.J.A.C. 6A:27-7.13(b)1 states N.J.A.C. 6A:27-7.13(b) shall not be construed to prohibit the quipping of a school bus with a sensor system to determine the presence of a person(s) in the side areas of the school bus, in addition to the front and rear of the bus.

The Department proposes N.J.A.C. 6A:27-7.13(c) to require the sensor system to include an audible and visual alert signal placed in the driver's compartment to alert the driver when a person(s) or object(s) is detected within the sensor's designated range or a video monitor with an audible alert placed in the driver's compartment relaying the image of the area within the sensor's designated range. Proposed N.J.A.C. 6A:27-7.13(c)1 will require the audible alert to be a sound unique to the system. Proposed N.J.A.C. 6A:27-7.13(c)2 will require the alert signal to identify for the driver the location near the vehicle in which the person(s) or object(s) is detected.

The Department proposes N.J.A.C. 6A:27-7.13(d) to require the sensor system to activate with the engagement of reverse gear and also activate simultaneous with the activation of at least one of the vehicle safety systems, including, but not limited to: warning lights or alarms; crossing control arm; stop signal arm; or passenger entrance door. The proposed rule also will require the sensor system to deactivate with the disengagement of reverse gear or on a delay from the deactivation of one of the listed vehicle safety systems based upon vehicle speed or a set period of time. Proposed N.J.A.C. 6A:27-7.13(d)1 will prohibit the sensor system from including a dual-technology system that requires the triggering of more than one technology before an alert is activated.

As the Department has provided a 60-day comment period in this notice of proposal, this notice is exempted from the rulemaking calendar requirement, pursuant to N.J.A.C. 1:30-3.3(a)5.

Social Impact

The health, safety and welfare of the children in the State are of utmost importance to the Department. The proposed new rules will effectuate the Legislature's intent of providing additional measures to increase the safety of students while entering or leaving a school bus.

Economic Impact

The proposed new rules will add to the cost of school buses manufactured on or after July 17, 2016. The additional cost will vary depending on a number of factors such as the number of systems ordered, system options available, and whether the system is installed at the factory or after market. Preliminary estimates for the sensor systems range between approximately \$1,700 and \$2,500 per school bus. The Motor Vehicle Commission estimates that 1,500 new buses are purchased each year. School districts receive transportation aid as part of their State aid package, which covers a portion of each school district's annual transportation costs. Thus, the increased cost of the new school buses will be covered, in part, by transportation aid.

Federal Standards Statement

There are no Federal standards or requirements applicable to the proposed new rules; therefore, a Federal standards analysis is not required.

Jobs Impact

The proposed new rules could result in the creation of jobs for developing and installing sensor systems for school buses.

Agriculture Industry Impact

The proposed new rules will have no impact on the agriculture industry in New Jersey.

Regulatory Flexibility Statement

Pursuant to the Regulatory Flexibility Act, N.J.S.A. 52:14B-16 et seq., the proposed new rules impact New Jersey public schools, nonpublic schools that own buses, school bus contractors, school bus manufacturers, and dealers. More than 1,000 school bus contractors and private schools own school buses in the State and there are approximately 20 school bus manufacturers and dealers that sell buses to New Jersey operators. The entities could be considered small businesses as defined by the Regulatory Flexibility Act, N.J.S.A. 52:14B-16 et seq.

To comply with the new law, any organization that operates a school bus manufactured after July 17, 2016, must ensure the school bus has a compliant sensor system installed. The Motor Vehicle Commission will inspect the sensor system. Preliminary estimates for the sensor systems range from \$1,700 to \$2,500; however, there are many factors that could influence the cost, including the number of units ordered, system options, and whether the sensor systems are installed at the factory or by the dealer.

The rule as proposed specifies the minimum performance standards to allow flexibility in system choices available to the impacted entities. School bus owners have the option of sensor technology, how the driver will be alerted, and activation and deactivation method.

Housing Affordability Impact Analysis

The proposed new rules will have an insignificant impact on the affordability of housing in New Jersey. There is an extreme unlikelihood the proposed new rules would evoke a change in the average costs associated with housing because the proposed new rules relate to sensor systems on school buses.

Smart Growth Development Impact Analysis

The proposed new rules will have an insignificant impact on smart growth. There is an extreme unlikelihood the proposed new rules would evoke a change in housing production in Planning Areas 1 or 2, or within designated centers, under the State Development and Redevelopment Plan in New Jersey because the proposed relate to sensor systems on school buses.