NOTICE OF PROPOSED EXPEDITED RULEMAKING

TITLE 13. PUBLIC SAFETY

CHAPTER 13. DEPARTMENT OF PUBLIC SAFETY – SCHOOL BUSES

PREAMBLE

1. Article, Part, or Section Affected (as applicable)	Rulemaking Action
R13-13-106	Amend

2. Citations to the agency's statutory authority to include the authorizing statute (general) and the implementing statute (specific):

Authorizing statute: A.R.S. § 41-1713(A)(4)

Implementing statute: A.R.S. § 28-900

3. Citations to all related notices published in the *Register* as specified in R1-1-409(A) that pertain to the record of the proposed rule:

Notice of Expedited Rulemaking Docket Opening: 23 A.A.R. 3498, December 22, 2017.

4. The agency's contact person who can answer questions about the rulemaking:

Name: Lance Larson, Sergeant

Address: Arizona Department of Public Safety
POB 6638, Mail Drop 1240
Phoenix, AZ 85086

Telephone:(602) 712-5808

E-mail: llarson@azdps.gov

5. An agency's justification and reason why the rule should be made, amended, repealed, or renumbered, to include an explanation about the rulemaking:

The agency is conducting an expedited rulemaking pursuant to A.R.S. § 41-1027(A)(6); where the rulemaking does not increase the cost of regulatory compliance, increase a fee or reduce procedural rights of persons regulated and amends or repeals rules that are outdated, redundant or otherwise no longer necessary for the operation of state government.

R13-13-106(16)(a) requires amendment to remove an unnecessary regulatory burden which does not have an identifiable correlation to school bus safety and is limiting economic opportunity. Presently, the rule requires a school bus to be equipped with a 30-gallon fuel tank.

Advancements in vehicle engineering have resulted in vehicles with smaller fuel capacity tanks having the same or greater functional fuel range as older vehicles with larger fuel capacity tanks. Due to this improved fuel efficiency, some vehicle manufacturers are reducing the fuel tank capacity below 30 gallons on certain school bus models. If this rule is not amended, school districts will not be able to purchase these new, more fuel-efficient models, resulting in a lost opportunity for fuel savings by the school districts and a lost economic opportunity for the school bus dealers. The Department is not able to identify a necessary, safety-related justification for maintaining the 30-gallon requirement.

In accordance with A.R.S. § 28-900, the Department consulted with the Arizona School Bus Advisory Council on March 6, 2018 where the council voted and approved the proposed rulemaking.

The Department received a rulemaking wavier from Mr. Tim Roemer, Public Safety Policy Advisor to Governor Ducey on November 30, 2017.

6. A reference to any study relevant to the rule that the agency reviewed and proposes to either rely on or not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

The Department did not review any studies.

7. A showing of good cause why the rulemaking is necessary to promote a statewide interest if the rulemaking will diminish a previous grant of authority of a political subdivision of this state:

The rulemaking does not diminish a previous grant of authority of a political subdivision of this state.

8. The preliminary summary of the economic, small business, and consumer impact:

Under A.R.S. § 41-1027, the expedited rulemaking is exempt from this requirement.

9. The agency's contact person who can answer questions about the economic, small business, and consumer impact statement:

See Item #8.

10. The time, place, and nature of the proceedings to make, amend, repeal, or renumber the rule, or if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule:

Date: April 13, 2018

Time: 9:00 a.m. MST

Location: Arizona Department of Public Safety
Public Services Center – Auditorium (check in with security in the lobby)
2222 W Encanto Blvd
Phoenix, Arizona 85009

Close of record: April 13, 2018 at 5:00 p.m. MST.

11. All agencies shall list other matters prescribed by statute applicable to the specific agency or to any specific rule or class of rules. Additionally, an agency subject to Council review under A.R.S. §§ 41-1052 and 41-1055 shall respond to the following questions:

a. Whether the rule requires a permit, whether a general permit is used, and if not, the reason why a general permit is not used:

The rule does not require a permit, but requires each individual school bus to meet the minimum safety standards. School buses are individually inspected by the Department; therefore a general inspection is not possible.

b. Whether a federal law is applicable to the subject of the rule, whether the rule is more stringent than federal law, and if so, citation to the statutory authority to exceed the requirements of federal law:

There is no applicable federal law.

c. Whether a person submitted an analysis to the agency that compares the rule's impact of the competitiveness of business in this state to the impact on business in other states:

No person submitted an analysis to the Department comparing the rule's business competitiveness impact.

12. A list of any incorporated by reference material as specified in A.R.S. § 41-1028 and its location in the rules:

There are no incorporated by reference materials related to this rulemaking.

13. The full text of the rules follows:

TITLE 13. PUBLIC SAFETY

CHAPTER 13. DEPARTMENT OF PUBLIC SAFETY - SCHOOL BUSES

ARTICLE 1. SCHOOL BUS MINIMUM STANDARDS

Section

ARTICLE 1. SCHOOL BUS MINIMUM STANDARDS

R13-13-106. Minimum Standards for School Bus Chassis

The chassis of a school bus introduced to Arizona on or after May 31, 2008 shall meet the requirements of this Section. The chassis of a school bus introduced to Arizona before May 31, 2008 shall meet the requirements of this Section or shall be maintained in accordance with the manufacturer's original specifications.

1. Air cleaner: An engine intake air cleaner shall be installed in the school bus that meets engine specifications defined by the school bus manufacturer.
2. Axles: The front and rear axles and suspension assemblies shall have a gross axle weight rating consistent with that stated by the chassis manufacturer on a notice located in the school bus driver's compartment.
3. Back-up alarm: If installed, an alarm that emits a warning sound when the school bus is backing shall conform to the following:
   a. The alarm-signaling device shall be of electronic, solid state design and shall emit an audible sound of a minimum of 97 dB(A) measured at 4 feet, 0° access from the source of the sound.
   b. The alarm-signaling device shall be wired into the backup light circuits and shall emit sound automatically when the gear shift lever is in "reverse" position.
   c. The alarm-signaling device shall be attached to the school bus chassis or body behind the rear axle.
4. Brakes:
   a. A school bus with a manufacturer-designed passenger capacity of 60 or less shall be equipped with a service-brake system that uses compressed air or hydraulic assist.
   b. A school bus with a manufacturer-designed passenger capacity greater than 60 shall be equipped with a service- brake system that uses compressed air.
   c. In addition to the service-brake system, a school bus shall be equipped with a parking-brake system to keep the school bus from moving when parked.
   d. The service brakes in a compressed-air system shall be adjusted using the following criteria:

Type	Outside Diameter of Air Chamber	Brake Adjustment Limit
6	4 1/2 inches	1 1/4 inches
9	5 1/4 inches	1 3/8 inches
12	5 11/16 inches	1 3/8 inches
16	6 3/8 inches	1 3/4 inches
20	6 25/32 inches	1 3/4 inches
24	7 7/32 inches	1 3/4 inches
30	8 3/32 inches	2 inches
36	9 inches	2 1/4 inches

e. The service brakes in a “long stroke” clamp type brake system shall be adjusted using the following criteria:

Type	Outside Diameter of Air Chamber	Brake Adjustment Limit
12	5 11/16 inches	1 3/4 inches
16	6 3/8 inches	2 inches
20	6 25/32 inches	2 inches
24	7 7/32 inches	2 inches
24*	7 7/32 inches	2 1/2 inches
30	8 3/32 inches	2 1/2 inches

*For 3" maximum stroke type 24 chambers

f. The service-brake system in a compressed-air system shall contain an emergency-brake system that will activate when the air loss in the service-brake system reaches 20 to 40 pounds per square inch.
g. A school bus using a compressed-air or hydraulic-assist service-brake system shall be equipped with a signal located in the school bus driver's compartment that emits a continuous audible or visible warning to the school bus driver when:
   i. The air pressure available in a compressed-air braking system is 60 pounds per square inch or less, or
   ii. There is a loss of fluid flow from the main hydraulic pump or loss of electric source powering the back-up system in a hydraulic-assist system.
h. A school bus using a compressed-air service-brake system shall be equipped with one or two illuminated gauges located in the school bus driver's compartment that show the pounds per square inch of compressed air available for the operation of the brake.
i. A compressed-air brake system with a dry reservoir shall have a one-way valve that will prevent the loss of compressed air between the dry reservoir and the source of compressed air.
j. A brake system with a wet reservoir shall have a valve located at the bottom of the wet reservoir that operates automatically or can be operated remotely or manually to eject the moisture from the reservoir.
k. Compressed-air or hydraulic-assist brake lines and booster-assist lines shall be installed in a manner that prevents heat, vibration, and chafing damage.
l. The brake systems of Types C and D school buses shall be installed so the chassis components can be visually inspected to detect brake lining wear without removal of any of the chassis components.

5. Front bumper: The front bumper shall be positioned at the forward-most part of the school bus and extend to the outer edges of the school bus.
6. Child alert notification system: A school bus may be equipped with an electronic or mechanical child alert notification system. If a school bus is equipped with a child alert notification system, the device shall be installed in a manner that does not interfere with

any other existing operating or electrical component. A child alert notification system in a school bus shall not have an override or bypass capability.

7. Clutch: The clutch torque capacity shall be equal to or greater than the engine torque output.
8. Color: The chassis, including wheels and front bumper, shall be painted black. The hood and fenders shall be painted National School Bus Yellow as described in R13-13-107(6).
9. Cooling system: A school bus shall be equipped with a cooling system that maintains the engine temperature operating range required to prevent damage to the school bus engine.
10. Drive shaft: Each section of the drive shaft to the rear driving axle shall be protected by a metal guard around its circumference to reduce the possibility of the drive shaft penetrating through the school bus floor or dropping to the ground.
11. Electrical system:
    a. Battery:
        i. The battery shall have a minimum cold-cranking capacity rating equal to the cranking current required by the engine for 30 seconds at 0° F. and a minimum reserve capacity rating of 120 minutes at 25 amperes.
        ii. The battery shall have a higher capacity than specified in subsection (11)(a)(i) if optional equipment installed on the school bus requires the higher capacity.
        iii. Because all batteries are to be secured in a sliding tray in the bus body as required by R13-13-107, chassis manufacturers shall mount batteries temporarily on the chassis frame, except that a van conversion or cutaway front-section chassis may be secured in accordance with the manufacturer's standard configuration. However, in all cases the battery cable provided with the chassis shall have sufficient length to allow some slack, and shall be of sufficient gauge to carry the required amperage.
    b. Alternator:
        i. All alternators shall conform to the recommended practices of Standard J180, January 2002 (no later amendments or editions) published by the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096-0001, which is incorporated by reference and on file with the Department.
        ii. All Type A-2 and Type B buses with a GVWR of 15,000 pounds or less shall have an alternator with a minimum of 130 amps.
        iii. All Type A-2 and Type B buses with a GVWR over 15,000 pounds, and all Type C and D buses shall be equipped with a heavy-duty truck or bus-type alternator meeting Standard J180, which is incorporated by reference in subsection (b)(i), having a minimum output rating of 130 amps, and shall produce a minimum current output of 50% of the rating at engine idle speed. The alternator may be either pad-mounted or hinge-mounted.
        iv. Buses equipped with an electrically powered wheelchair lift or air conditioning may be equipped with a device that monitors the electrical system voltage and advances the engine idle speed when the voltage drops to, or below, a pre-set level.
        v. A belt-driven alternator shall be capable of handling the rated capacity of the alternator with no detrimental effect on any other driven components.
        vi. A direct-drive alternator may be installed instead of a belt-driven alternator.
        vii. If the school bus is equipped with an air conditioning system, the alternator shall have a minimum charging rate of 160 amperes per hour.
        viii. The alternator on a school bus shall contain a regulator to control the voltage to the battery.

c. Wiring:
    i. All wiring shall conform to the recommended practices of Standard J1292, October 1981 (no later amendments or editions), published by the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096-0001, incorporated by reference and on file with the Department.
    ii. All wiring shall use a standard color or number coding and each chassis shall contain a wiring diagram that details the wiring of the chassis.
    iii. The chassis shall be equipped with a connection to provide electrical power to the school bus. The connection shall be located on the chassis cowl or on the engine compartment of a school bus designed without a chassis cowl. The connection shall contain terminals for the main 100 ampere body circuit, tail lamps, right-turn signal, left-turn signal, stop lamps, backup lamps, and instrument panel lights. The instrument panel lights shall have a rheostat control.

12. Engine horsepower: The gross vehicle weight rating of a school bus shall not exceed 185 pounds for each engine horsepower as published by the manufacturer on a notice located on the school bus engine.
13. Exhaust system:
    a. The exhaust pipe, muffler, and tailpipe shall be located under the school bus body and attached to the chassis.
    b. The tailpipe shall be constructed of a corrosion-resistant tubing material at least equal in strength and durability to 16-gauge steel tubing.
    c. The exhaust system on a gasoline-powered chassis shall be insulated from the fuel tank and fuel tank connections by a shield at any point where the exhaust system is 12 inches or less from the fuel tank or fuel tank connections.
14. Frame:
    a. A school bus frame shall be of a design and strength capable of supporting the gross vehicle weight of the school bus.
    b. A school bus frame shall not be altered for any purpose.
    c. Holes in top or bottom flanges of frame rails are not permitted except as provided by the manufacturer. There shall be no welding to the frame rails except by the chassis or body manufacturer or the manufacturer's certified agent.
    d. The school bus frame shall not be cracked, loose, sagging, or broken.
    e. Brackets securing the cab or the body of the school bus to the frame shall not be loose, broken, or missing.
    f. The frame rail flanges shall not be bent, cut, or notched, except as specified by the manufacturer.
    g. All accessories mounted to the school bus shall be secured as specified by the manufacturer.
    h. Holes shall not be drilled in the top or bottom rail flanges, except as specified by the manufacturer.
15. Front fenders of a Type C school bus: The outer edges of the front fenders shall be wider than the outer edges of the front tires when the front wheels are in the straight-ahead position.
16. Fuel system:
    a. ~~A school bus shall contain a fuel tank with a minimum 30-gallon capacity, with a minimum dispersion of 25 gallons of fuel to the engine~~. The fuel tank shall be vented

to the outside of the school bus body so fuel spillage will not contact any part of the exhaust system.

b. On a Type B, Type C, or Type D school bus, no portion of the fuel system that is located outside of the engine compartment, except the filler tube, shall extend above the top of the chassis frame.

c. A fuel filter with replaceable element shall be installed between the fuel tank and engine.

d. The fuel line that supplies fuel to the engine shall be located at the top of the fuel tank.

17. Horn: A school bus shall be equipped with at least one horn capable of producing a sound level between 82 and 102 dB(A) when tested according to the Standard J377, March 2001 (no later amendments or editions) published by the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096-0001, incorporated by reference and on file with the Department.

18. Instruments and instrument panel:

a. The chassis shall be equipped with the following instruments:

i. Speedometer;

ii. Odometer that will give accrued mileage to seven digits, including tenths of miles;

iii. Voltmeter or ammeter;

iv. Oil pressure gauge;

v. Water temperature gauge;

vi. Fuel gauge;

vii. Upper beam head lamp indicator;

viii. Brake system signal as required by R13-13-106(4)(f);

ix. Turn signal indicator; and

x. Air pressure or hydraulic gauge.

b. The instruments shall be mounted on the instrument panel in the school bus driver's compartment and visible to the school bus driver while seated in the driver's seat.

c. The instrument panel shall be equipped with a rheostat switch that controls the illumination to the instrument panel and the gear shift selector indicator.

19. Oil filter: A replaceable element or cartridge-type oil filter shall be provided with a minimum capacity that meets or exceeds the capacity recommended by the manufacturer of the school bus engine.

20. Openings: All openings in the floorboard and in the fire wall between the chassis and passenger compartment shall be sealed.

21. Splash guards:

a. A school bus shall be equipped with rear fender splash guards constructed of flexible rubberized material.

b. The splash guards shall be wide enough to cover the tire tread width, installed close enough to the tire tread surface to control side-throw of road surface material, and extend to within 8 inches of ground level.

22. Steering system:

a. Power steering is required on all school buses manufactured after January 1, 1984.

b. Bracing extending from the center of the steering wheel to the steering wheel ring shall not be cracked or missing.

c. The distance of movement of the steering wheel between two points of resistance shall not be greater than the following when measured with the engine running:

Steering wheel diameter	Power steering	Manual steering
16 in. or less	6 3/4 inches	4 1/2 in.
18 in.	7 1/8 inches	4 3/4 in.
20 in.	7 7/8 inches	5 1/4 in.
22 in.	8 5/8 inches	5 3/4 in.

d. There shall be clearance of at least 2 inches between the steering wheel and any object in the driver's compartment.
e. A non-adjustable steering column shall be fastened in a fixed position. An adjustable steering column shall be equipped with a locking mechanism.
f. The steering gear housing shall not have loose or missing mounting bolts. There shall not be cracks in the gear housing or its mounting brackets.
g. The connecting arm on the steering gear power source shall not be loose.
h. The steering wheel shall turn freely in both directions.
i. The steering system shall have a means for lubrication of all wear-points.

23. Suspension:
    a. Shock absorbers:
        i. A school bus shall be equipped with front and rear double-acting shock absorbers. Replacements to shock absorbers shall be made according to the specifications of the manufacturer's part number as stamped on the shock absorber.
        ii. If a school bus is manufactured with tandem rear axles, rear shock absorbers are not required.
    b. Suspension system:
        i. Capacity of suspension assemblies shall be commensurate with the chassis manufacturer's gross vehicle weight rating.
        ii. If leaf-type rear springs are used, they shall be a progressive rate or multi-stage design.
24. Tires and wheels:
    a. Tires and wheels shall have an accumulated load rating at least equal to the gross vehicle weight rating.
    b. Dual rear tires shall be provided on all school buses that have a gross vehicle weight rating of more than 10,000 pounds.
    c. Each tire on a particular axle shall be the same size.
    d. All tires on a school bus shall be bias or all tires on a school bus shall be radial and shall not differ more than one size between front and rear axles.
    e. On a Type C or D school bus, a spare tire, if present, shall be in a carrier mounted outside the passenger compartment.
25. Transmission: The school bus transmission shall have no fewer than three forward speeds and one reverse speed.
26. Turning radius:
    a. A chassis with a wheelbase of 264 inches or less shall have a right and left turning radius of not more than 42 1/2 feet, as measured to the edge of the front tire at the outside of a circle as the school bus moves within the circle.

b. A chassis with a wheelbase of more than 264 inches shall have a right and left turning radius of not more than 44 1/2 feet, as measured to the edge of the front tire at the outside of a circle as the school bus moves within the circle.

27. Weight:
    a. The gross vehicle weight of a school bus shall not exceed the chassis manufacturer's gross vehicle weight rating for the chassis as recorded on a notice located in the school bus driver's compartment.
    b. To calculate the gross vehicle weight of a school bus, add the chassis weight, the school bus body weight, the school bus driver's weight, and the total seated passenger weight.
        i. For the purpose of calculation, the school bus driver's weight is 150 pounds.
        ii. For the purpose of calculation, the passenger weight is 120 pounds per seated passenger.
    c. The weight distribution of a school bus on a level surface that is fully loaded according to the gross vehicle weight rating shall not exceed the front axle gross weight rating or rear axle gross weight rating as recorded on a notice located in the school bus driver's compartment.