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Office of Transportation
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Bulletin

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Topic:

High Winds and School Buses

Message:

Vehicle size, wind speed, wind direction, road conditions, and visibility must all be taken into consideration when making operational decisions during periods of inclement weather. Ultimately, the decisions must also be made at the local level because what is happening in one area may be completely different from conditions in an area just a short distance away. With that in mind, there are two main areas of concern:

- Operating Buses - When wind forces of 30 MPH or greater strike the side of a school bus, the forces exerted can exceed 500 pounds. Forces of this magnitude can greatly impact steering control and tracking of school buses in motion. This is true for sustained winds of 30 MPH or greater or wind gusts greater than 40 MPH.
- Parked Buses – The overall effect of high winds on parked buses appears to be minimal. While the forces exerted from broadside winds on a school bus are substantial, in most cases, buses parked on a level surface in an open area can withstand wind forces of up to 100 MPH without danger of rollover. If, however, buses are parked on inclines, the amount of wind required to cause rollover is diminished. Buses parked on an incline of approximately 30 degrees are subject to rollover with winds in the 60 MPH range.

Here are a few recommendations to consider:

1. Remind drivers of the hazards of operating vehicles during periods of strong winds and wind gusts.
2. Limit the operation of school buses to periods with sustained winds below 30 MPH or when wind gusts are 40 MPH or less.
3. If the National Weather Service issues a Wind Advisory or a Severe Thunderstorm Warning, the winds associated with these conditions affect the safe operation of a school bus. Operation of buses should be curtailed until conditions improve or the advisory/warning is lifted.
4. Always try to park buses in an open area and on level ground.
5. Close all windows, secure all doors, and in particular secure all roof hatches.

If other questions arise regarding this matter, please feel free to contact the Office of Transportation at 803-734-8246.

Reference material:

The following definitions were taken from the National Oceanographic and Atmospheric Administration (NOAA) National Weather Service glossary, available at <http://w1.weather.gov/glossary/>:

Severe Thunderstorm Warning: This is issued when either a severe thunderstorm is indicated by the WSR-88D radar or a spotter reports a thunderstorm producing hail one inch or larger in diameter and/or winds equal or exceed 58 miles an hour; therefore, people in the affected area should seek safe shelter immediately. Severe thunderstorms can produce tornadoes with little or no advance warning. Lightning frequency is not a criteria for issuing a severe thunderstorm warning. They are usually issued for a duration of one hour. They can be issued without a Severe Thunderstorm Watch being already in effect.

Wind Advisory: Sustained winds 25 to 39 mph and/or gusts to 57 mph. Issuance is normally site specific. However, winds of this magnitude occurring over an area that frequently experiences such winds will not trigger a wind advisory.