

The Bendix Perspective:

NHTSA's Commercial Vehicle ESC Stability Notice of Proposed Rulemaking (NPRM)



On May 23, 2012, the National Highway Traffic Safety Administration (NHTSA) published a Notice of Proposed Rulemaking (NPRM) that would require full-stability technology, known as Electronic Stability Control (ESC), on heavy trucks and motorcoaches with a gross vehicle rating greater than 26,000 pounds.

As a business, Bendix has consistently maintained our preference to let the market decide technology choices. It is our position, however, that if a stability control regulation is forthcoming, ESC is the best technology choice. In late July 2012, Bendix representatives presented comments at NHTSA's public hearing for the NPRM, held in Washington, D.C., and have provided formal comments to the docket.

What vehicles are impacted by the Stability NPRM?

The NPRM applies to:

- Heavy-duty (+26,000 lbs.) air-braked tractors and motorcoaches (defined as cross country and intercity buses)

The NPRM does not apply to:

- Heavy-duty vocational trucks (cement mixers and dump trucks)
- Medium-duty vehicles
- School buses and transit buses



What stability systems were considered in this NPRM?

NHTSA considered Roll Stability Control (RSC) for tractors and Trailer Roll Stability Program (TRSP) but decided to go with full-stability technology (ESC) for the NPRM because they felt it would prevent more crashes, injuries and fatalities. Unlike roll-only systems, more comprehensive full-stability systems address both roll and directional stability. Bendix made full-stability technology (ESC) available to the market in 2005 with the launch of Bendix® ESP® Electronic Stability Program.

What are the differences between ESC and RSC?

Bendix notes these key differences between RSC and ESC:

1. **Information collected by the sensors:** ESC systems have more sensors, which enable the stability system to understand driver intent and vehicle direction, delivering the information the system needs to intervene sooner and mitigate a loss-of-control situation that may lead to a rollover.
2. **If an intervention is required, ESC delivers more braking power at the right places:** The ESC system can provide more powerful brake interventions by involving the steer, drive, and trailer axles. In contrast, roll-only systems typically only apply brakes on the drive and trailer axles.

NHTSA chose ESC for the NPRM, believing it will prevent more crashes, injuries and fatalities than RSC.

How do ESC and RSC compare in terms of cost and net benefits?

NHTSA considered a cost/benefit analysis for the proposed regulation and found that while ESC is higher in cost than RSC, it would save more lives and have higher net benefits. Net benefits include injury benefits, property damage, travel delay savings and cost-per-equivalent-life-saved less the cost to implement the mandate.

NHTSA effectiveness numbers used in the NPRM also demonstrate the superior performance of ESC as more effective in crashes where a stability system could help.



What is the Bendix perspective on this cost/benefit analysis?

Bendix is in agreement with the general conclusion drawn from this work—that ESC is more effective than RSC. We believe, however, that the NHTSA effectiveness ratings under represent the performance of ESC in both rollover and loss-of-control situations. This results in lower difference in effectiveness between ESC and RSC. Where NHTSA found ESC to be 6-7% more effective than RSC, the Bendix analysis of this data found ESC to be 31% more effective. A wider difference of effectiveness would likely produce a greater net benefit than was originally included in the NPRM.

	NHTSA*	Bendix
ESC effectiveness	28-36%	78%
RSC effectiveness	21-30%	47%

**Source: FMVSS No.136 Electronic Stability Control Systems on Heavy Vehicles – Preliminary Regulatory Impact Analysis, NHTSA Office of Regulatory Analysis and Evaluation, National Center for Statistics and Analysis, May 2012.*

When is the ESC mandate expected to be implemented?

NHTSA proposes that the implementation occur in two phases, beginning two years after final rule publication*:

- Phase One would cover 6x4 and 4x2 tractors as well as all motorcoaches over 26,000 lbs., beginning with model year 2016.
- Phase Two adds tractor configurations for severe service, 6x2 and specialty applications for model year 2018.

The regulations would only apply to new vehicles; there is no retrofit requirement. The actual implementation dates are contingent on when the rules are enacted.

**Bendix estimates final rule publication in second half of 2013.*

Do I need to wait for the mandate to get stability technology?

No, full stability systems have been available in the commercial vehicle market since 2005 and are available from all truck manufacturers. Mack, Volvo and Peterbilt have made ESC standard. International, Kenworth and Freightliner offer ESC as an option.

What is the trucking industry’s position on this mandate?

In comments heard at the NHTSA Public Hearing, manufacturers – including the truck OEMs present – were all in favor of ESC. Their main concern centers on the compliance tests, namely the sine with dwell test. Bendix and Meritor-WABCO are working with the OEMs, NHTSA and other organizations to propose acceptable testing alternatives.

Where can I get more information about ESC technology?

For additional information, download our White Paper “Road Map for the Future, Making the Case for Full-Stability”, by visiting www.bendix.com.

About Bendix Commercial Vehicle Systems

Bendix was the first North American brake manufacturer to make full-stability solutions widely available for the commercial vehicle market, with the launch of Bendix® ESP® Electronic Stability Program in 2005. Bendix manufactures and sells both roll stability control and electronic stability control systems used for heavy trucks today. We have sold more than 200,000 ESP full-stability systems to date.

ESC is the one stability technology that delivers the power and performance needed to help commercial vehicle drivers mitigate both rollover and loss-of-control situations.

