AFB20 (2) Roadside Safety Design Subcommittee on International Research Activities
Resolution on Traffic Barrier Ends
"END Turned Down ENDs"
as approved at the Transportation Research Board Meeting on January 24, 2011

"Turned Down Terminals were developed and introduced in the 1960's to eliminate spearing of the rail into the passenger compartment of the impacting vehicle that often occurred with the "Fishtail" or "Spoon" full height, stand-up ends. While Turned Down Terminals were an improvement over the "Fishtail" or "Spoon" Terminals, both field experience and full scale crash testing have shown that vehicle roll over or launching is likely with Turned Down Terminals under high speed impact conditions.

Based on observed crash test performance and reported field experience, the AFB20 (2) Subcommittee recommends that road authorities in all countries immediately prohibit new installations of "Fishtail" or "Spoon" Terminals as well as Turned Down Terminals on the approach end of concrete barriers or steel beam guardrails on roads with operating speeds in excess of 80 km/h unless these ends are outside the defined clear zone and in other locations where end-on high speed impacts are unlikely to occur or otherwise shielded from potential impacts.

It is understood that system-wide replacement of existing Turned Down Ends or Fishtail or Spoon Terminals, while beneficial, may not be practical or economically feasible. For new Terminal installations at these locations road authorities should only specify the use of crashworthy Terminals that have met appropriate testing criteria such as NCHRP 350, MASH or EN 1317 (or their updates). During any road construction Restoration, Rehabilitation and Resurfacing Projects (3R), existing Terminals should be updated with Terminals that meet NCHRP 350, MASH or EN 1317 (or their updates) criteria.

Turned Down Terminals and Fishtail Terminals remain appropriate for trailing (downstream) ends of traffic barriers on divided highways and in other locations where end-on high speed impacts are unlikely to occur."