

**TTI Criticizes Arbitrary, Non-Standard Crash Tests Performed by Virginia
October 1, 2015**

The final two tests of the ET Plus® guardrail end-terminal system (ET Plus) being conducted at a testing facility in the California desert by the Virginia Department of Transportation (VDOT) and Commonwealth of Virginia are set to begin today. Regardless of the results, these arbitrary, non-standard tests will prove nothing beyond Virginia’s determination to see that the ET Plus “fails” in order to support litigation.

The fact that the ET Plus alone is being held to “made-up” standards belies any claim that “public safety” concerns are behind this testing. Were this not so, all roadside safety products in this category would be evaluated according to the same criteria. Virginia’s testing approach calls into serious question the credibility of the tests and reinforces suspicions about the real motive for the testing. Quite simply, when a device is tested under conditions outside the national standard that these types of guardrail end-terminal systems were designed to meet, the testing outcome is meaningless.

None of the six tests being run by VDOT in September and October meet accepted national standards. In the four tests conducted so far, experts from the Texas A&M Transportation Institute (TTI) and Trinity Industries, Inc., who upon limited inspection of the crash test installation, pointed out the non-standard aspects of the tests—but VDOT mostly ignored their recommendations and ran the tests anyway.

As indicated on the attached table, VDOT’s test conditions do not meet the National Cooperative Highway Research Program (NCHRP) Report 350 test criteria applied to the ET Plus and other guardrail end-terminal systems of its kind. Standards exist for a reason. Without them, there is no objective mechanism for evaluating the design, effectiveness and performance of any roadside safety device.

In September, after months of reviewing real-world crash data from around the country, a joint task force of federal and state transportation safety experts found no reason for further testing of the ET Plus or other NCHRP Report 350-compliant extruding w-beam guardrail end-terminal systems. The task force was comprised of individuals from the Federal Highway Administration (FHWA), various state departments of transportation, the American Association of State Highway and Transportation Officials (AASHTO), and three independent experts. FHWA called the task force’s efforts “the most thorough evaluation ever conducted of this particular roadside safety hardware.”

The circumstances surrounding VDOT’s tests of the ET Plus stand in stark contrast to the transparency of the Federal Highway Administration (FHWA)-requested ET Plus tests conducted by Southwest Research Institute in San Antonio last December and January. (*See attached table for a comparison.*) VDOT personnel, along with representatives of other state departments of transportation and an independent expert from Virginia Tech University employed by FHWA, were given ample opportunity to review and suggest changes to the proposed testing plan, observe the tests, and thoroughly inspect the vehicle and guardrail prior to and following those tests. FHWA, as part of its review, also asked the states for specific performance feedback related to the ET Plus. VDOT’s response was that “*end terminals are performing as expected.*”

The ET Plus has undergone the most rigorous testing ever applied to any guardrail end-terminal system and has an unbroken chain of eligibility for federal-aid reimbursement from the FHWA. It has repeatedly passed NCHRP Report 350 test criteria. This, plus 15 years of roadside experience, vindicate and reinforce our confidence in the ET Plus.

For more information:

FHWA Task Force Report: <http://www.fhwa.dot.gov/guardrailsafety/isptf.cfm>

TTI ET Guardrail Resources: <http://tti.tamu.edu/etguardrailresources/>

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10-01-15

Comparison of Crash Testing Protocols Followed

Test Action	FHWA/SwRI Dec. 2015 and Jan. 2015 Tests	VDOT/KARCO Sept. and Oct. 2015 Tests
Documentation of chain of custody for test articles.	✓	No
Documentation of condition of test articles.	✓	No
Verification that test articles are Trinity-manufactured parts that have not been altered or compromised.	✓	No
Trinity installation drawings provided.	✓	No
Specification and details of entire test installation, including ET Plus terminal system, guardrail section, and downstream terminal.	✓	No
Clear specification of NCHRP Report 350 standard soil.	✓	No
Clear specification of post/soil installation procedure to achieve NCHRP Report 350 soil compaction requirements.	✓	No
Ability to observe the installation of the test articles.	✓	No
Ability to inspect the installation before and after each test to verify and document as-built/as-tested dimensions.	✓	✓
Clear specification of the type of test vehicles used.	✓	No
Knowledge of the historical condition of the test vehicles.	✓	No
Ability to inspect the test vehicles before and after each test.	✓	✓
Test plan clearly denoting tests being conducted and associated impact conditions.	✓	No
Schedule of testing dates/times provided for entire test series.	✓	No
Tests performed in accordance with NCHRP Report 350 design procedures.	✓	No
Same evaluation criteria used for all guardrail terminals installed on the national highway system.	✓	No

Updated by Texas A&M Transportation Institute, 10-01-15