

**From:** [Artimovich, Nick \(FHWA\)](mailto:Artimovich, Nick (FHWA))  
**To:** "Keith Cota"; [kplatte@ashto.org](mailto:kplatte@ashto.org)  
**Cc:** [Joseph.Jones@modot.mo.gov](mailto:Joseph.Jones@modot.mo.gov); [Ronald K. Faller \(rfaller1@unl.edu\)](mailto:Ronald.K.Faller(rfaller1@unl.edu)); [dsicking@unl.edu](mailto:dsicking@unl.edu); [Julian, Frank \(FHWA\)](mailto:Julian, Frank (FHWA))  
**Subject:** RE: AASHTO-TCRS ---- Complaint on failing heads for terminal unit  
**Date:** Thursday, October 11, 2012 3:32:15 PM  
**Attachments:** [CC\\_0094\\_Acceptance\\_Letter\\_09-02-2005.pdf](#)

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Keith,

Here is our response to your inquiry regarding the ET-Plus terminal:  
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On February 14, 2012, Barry Stephens and Brian Smith of Trinity Highway Products (Trinity) stated the company's ET end terminal with the 4-inch wide guide channels was crash tested at the Texas Transportation Institute (TTI) in May 2005. Roger Bligh of TTI confirmed this information on February 14, 2012. Trinity submitted documentation on various dates of changes made to its ET end terminals, which included changes from the ET-2000 to the ET-Plus. On February 14, 2012, the company reported the reduction in the width of the guide channels from 5 inches (in the year 2000) to 4 inches (in 2005) was a design detail omitted from the documentation submitted to the Agency on August 10, 2005. On March 15, 2012, Trinity submitted a letter to FHWA dated March 14, 2011 (sic), which stated its ET-Plus with the 4-inch guide channels was crash tested at TTI in May 2005. The Trinity ET-Plus end terminal with the 4-inch guide channels is eligible for reimbursement under the Federal-Aid Highway Program under FHWA letter CC-94 of September 2, 2005.

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FHWA Letter CC-94 is attached.

Regards,

Nicholas Artimovich, II  
Highway Engineer, Office of Safety Technologies  
Federal Highway Administration HSST  
1200 New Jersey Avenue SE, Room E71-322  
Washington, DC 20590  
email: [nick.artimovich@dot.gov](mailto:nick.artimovich@dot.gov)  
phone: 202-366-1331  
fax: 202-366-3222  
web: <http://safety.fhwa.dot.gov>

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**From:** Keith Cota [mailto:[KCota@dot.state.nh.us](mailto:KCota@dot.state.nh.us)]  
**Sent:** Monday, October 01, 2012 3:39 PM  
**To:** Artimovich, Nick (FHWA); [kplatte@ashto.org](mailto:kplatte@ashto.org)  
**Cc:** [Joseph.Jones@modot.mo.gov](mailto:Joseph.Jones@modot.mo.gov); [Ronald K. Faller \(rfaller1@unl.edu\)](mailto:Ronald.K.Faller(rfaller1@unl.edu)); [dsicking@unl.edu](mailto:dsicking@unl.edu); [Julian, Frank \(FHWA\)](mailto:Julian, Frank (FHWA))  
**Subject:** AASHTO-TCRS ---- Complaint on failing heads for terminal unit

Nick and Keith,

It seems I need to send along a big thanks to Frank Julian for offering up my contact information to a Mr. Joshua Harman (304-888-4261). Late last Friday just before closing and as I was getting prepared for a great colorful weekend here in NH (mapping my route out as to where to drive for beautiful pictures), I received a phone call

from Mr. Harman as to his imminent concerns for the crash worthiness of the ET-Plus and ET-2000 terminal units due to the head and the extruder channel.

Mr. Harman advised that he has documented crash history across this country as to what he claims to be the failure of the head interaction with the extruder channel for the, SKT350, ET-2000 and ET-Plus. He alleges that the ET-2000 and ET-Plus terminal units are being sold with a modification to the extruder channel that may not have been crash tested to verify if it is crashworthy. He explained that the original accepted terminal used a 5 inch feed channel to control the movement of the head into the rail system allowing for the intruder head to coil the rail system and decelerate the vehicle. He seems to feel the use of a modified 4 inch feed channel being manufactured for the ET-Plus is too narrow and results in internal snagging with failure of the extruder head to complete the recoiling of the W-Beam. He feels the 4 inch feed channel modification made during device manufacturing was never crash tested for the change and, therefore, has resulted in documented, poor performance and safety from the data he has collected. He stated that he has documented several instances where the systems have failed in almost every State across this country and he has posted the information on his web site – [www.failingheads.com](http://www.failingheads.com)

Mr. Harman noted that he has had past conversations with Doctor Sicking, Doctor Faller, Nick Artimovich, Keith Platte and Frank Julian as to his concerns for this system change and the need for immediacy to address this deficiency. He seems to be alluding to a position that the manufacturer may have modified the extruder plate and feed channel from what was accepted under the crash test for NCHRP 350 (Acceptance Letter CC-12G) and are providing non-crashworthy terminals. He did indicate that certain manufacturers of these terminal units have brought legal action against him due to his public outcry and he noted that these manufacturer(s) are trying to shut down his web page.

He expressed the need to get the information out to the users and buyers of these devices and felt that TCRS role should be to do that. I explained that this is the first time I am being aware of his alleged concern for the safety performance of these terminal units. I advised that the role of the TCRS is to document accepted road safety hardware as accepted under NCHRP 350 and any newer hardware systems under MASH into the Roadside Design Guide for its toll box application by the designers. I advised that it is not the role of the TCRS to police whether the hardware devices being manufactured meet the acceptance testing and to verify the device being delivered is the same as the crash tested hardware. This role falls to each State through their own Quality Assessment and Quality Controls programs. As in NH, if we find a contractor, supplier and/or manufacturer providing a substitute product that is not representative of the accepted device per our qualified products listing, then it would be referred to our Chief Engineer and, ultimately, to our Attorney General's Office for legal action. It is not the role of the TCRS to do this.

This issues appear to have some long history behind it and has resulted in several legal claims that are currently going through the legal process (according to Mr. Harman). I firmly believe that it is not the role of the TCRS to decide right from wrong in this case, as the court will decide that fate. Mr. Harman does bring up some interesting questions, such as: 1) what was the particular dimension of the original sliding channel used during the accepted crash tests, 2) has certain parts of the hardware system have been changed through the manufacturing process of the hardware and 3) should the changes require a revalidation test to ensure that its functionality has not diminished? Who polices this or should it be? Is it left up to the QC/QA policy of the individual States? (all rhetorical questions!)

The question I do have is ,”for the terminal units we are installing in NH, should it be providing a 5 inch feed channel or not?” We have many, many of these terminal units on our high speed facilities and this certainly causes me some strong concern for crash worthiness of the ET-Plus and ET-2000 that we have and are installing each year. I am not sure if I want to wait until the court case is decided and all the appeals have been completed to take action (20 years from now) or be ready to answer the next set of bigger questions as to 1) the

need to retrofit the devices installed along our highway system and 2) who pays?

I understand this has been going around for some time and I am just now becoming aware of the issues through the complainant in the lawsuit. I will be looking toward Nick to give some guidance as to how NH and other States should proceed. Should I be worried? Should I send this out to the full slot of TCRS State members? Or worst yet, should I brief my Chief Engineer? I don't like the box this puts me in!

Keith A. Cota, Chairman  
AASHTO Technical Committee on Roadside Safety  
NH Department of Transportation  
Bureau of Highway Design  
7 Hazen Drive, PO Box 483  
Concord, NH 03302-0483  
Phone: (603) 271-1615  
Fax: (603) 271-7025  
Email: [kcota@dot.state.nh.us](mailto:kcota@dot.state.nh.us)