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B R E E D

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National Highway Traffic Safety Administration
Docket Management
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NHTSA-2001-8677-21

Reference: **Docket No. NHTSA 2001-8677; Notice 1**

Subject: Comments on the Advanced Notice of Proposed Rule Making
for "early warning reporting requirements" of the Transportation,
Recall, Enhancement, Accountability and Documentation Act

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NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

BREED Technologies is a supplier of occupant restraint systems, air bags, seat belts, steering wheels, and electronics to the automotive industry.

We are pleased to offer our comments on the issues raised by NHTSA in its Advance Notice of Proposed Rulemaking (ANPRM) on the establishment of an early warning reporting system required by the Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act.

BREED Technologies is a member of Automotive Occupant Restraints Council and Motor Equipment Manufacturers Association and is in agreement with comments submitted by these organizations. In addition, we have also included several additional comments for your consideration.

BREED supports the philosophic notion of an "early warning" system as contemplated in the law. It is difficult to imagine a system in practice that would achieve the desired result. BREED Technologies routinely takes action and reports issues at the earliest stages of investigation when warranted. The issue at hand is one of analysis and interpretation of data. This is a task that we dedicate a great deal of time and energy to and one that NHTSA would find impossible without similar tools, and staff. We therefore propose as part of our comments, and as a supplement to reporting required by law, an investigation into a certification, similar to QS or ISO certification, which would rate a supplier's systems and method related to early warning indicators and analysis.

Our comments follow.

Sincerely,



Craig White
Chief Technology Officer

Attachments: Breed Comments to TREAD Act

Comments

The intent of the Congress in requiring NHTSA to establish an early warning reporting system was to develop an efficient means of identifying safety related defects as early as possible. Breed Technologies agrees in principle with this goal. In fact, a great deal of time and effort within the scope of our daily activity is dedicated to just this activity. In short, not only do we produce products; we constantly evaluate those products through rigorous testing and analysis to gain as much information about them as possible. Our mission is to determine in our laboratories and factories how our products will perform in the field.

While we believe our objectives and those implied by TREAD are in alignment, we nevertheless question the utility of a central agency requiring any additional information to that already required in the identification of possible safety defects. The reason for this departure lies in our knowledge and understanding of the requirements associated with the analysis, and interpretation of a huge body of data on any particular product. Put another way, there is too much raw data for an outside agency to analyze, and analysis requires a full complement of all technical skill sets that currently exist in the industry. As described below, we estimate the raw data set of information routinely processed within Breed Technologies for a single vehicle platform between 24360 and 102980 pages for a typical system. Further, we comment on the definition of “substantially similar”, as it applies to analysis where identical components used in two different designs may have completely different failure modes and effects based on consideration of design, use, manufacturing location, and system application.

Given our desire to participate in an activity that makes our industry safer, and the conflict that we are unable to imagine a meaningful response or set of requirements in relation to central reporting, leads us to propose discussion of an alternate approach. That is, a discussion between NHTSA and the agencies that already monitor and certify supplier conformance to QS and ISO standards. An industry dialog in this area could lead to additional requirements aimed at early warning indicator (EWI) test and analysis that are in alignment with current standard industry quality process and reporting practices. NHTSA standardized reporting could be developed with this certification process in mind. We believe that an emphasis of this kind could lead to a substantially improved industry by reinforcing commonly known industry practices for EWI.

Please note additional comments and answers to selected questions posed in the ANRPM outlined below:

Safety Recall Campaigns in Foreign Countries.

We strongly recommend that the reporting of safety field actions in foreign countries be the responsibility of the organization that initiates the campaign with two exceptions:

- 1) Instances where a vehicle that is recalled overseas that is not sold in the US. In such cases, the vehicle manufacturer would not have a reporting obligation, but the recall could involve restraint systems that are substantially similar to those incorporated in vehicles that are sold in the US.

- 2) Instances where a supplier discovers a potential safety defect in a production run of replacement parts.

Information Involving Claims Alleging Death or Serious Injury Associated with a Potential Defect. As the Agency considers the type of information that should be reported under this statutory mandate, we strongly recommend that alleged deaths or injuries claimed in lawsuits not be required to be reported to NHTSA. Please see our answer to the question on reporting lawsuits below.

Aggregate Statistical Data Involving Claims Alleging Property Damage Associated with a Potential Defect. Section 3(b) also requires that the final rule establishing the early warning reporting system require the reporting of information alleging property damage resulting from potential defects. Here too we recommend that any claims arising out of litigation not be required to be reported to NHTSA.

Warranty Claims. As a supplier, Breed Technologies does not directly receive warranty claims from vehicle owners and as such it would be difficult to respond to a requirement of reporting as a supplier. In addition, the utility of such information if supplied would be limited to the extent of NHTSA's ability to analyze it.

Field Reports. As suppliers we do not directly receive field reports unless an OEM has already determined that there is some basis for investigation into one of our products. We suggest that this may define an analysis trip point and may lead to early warning information, but in this case, the decision to transfer information resides with the OEM and so too should be the requirement to report it. A subsequent action on our part would take place after an investigation and any response associated with this investigation is already covered under current requirements for our industry.

Consumer complaints. As manufacturers of motor vehicle equipment, we do not directly receive consumer complaints from vehicle owners and as such it would be difficult to respond to a requirement of reporting as a supplier.

Internal Investigations. By the nature of our work, almost everything that is done in the course of a day may be classified as an internal investigation. A very large number of our investigations have nothing to do with safety issues in the field. It would be reasonable to require that investigations undertaken as a result of requests by OEM's as defined above in field reports be reported if the conclusion is that there is a potential field issue, but in our view this requirement already exists and is followed today.

Changes to Components and Service Parts. During the production of assembled products, there are numerous changes or adjustments made to the product and its components which are reflected in the engineering and manufacturing documents. The attachment following these comments outlines the number of pages of documentation that are required for a typical set of components produced by Breed Technologies for a single vehicle platform. Depending on the change, a great number of these pages of material may be affected in some way. Assuming that the mere reporting of a change to a component would not be a sufficient requirement for early warning, and that some amount of documentation regarding the change would be

required, reporting of these design changes would end up being voluminous and burdensome since these types of changes occur continuously over a product's life cycle. It would also require NHTSA to have expertise to determine the impact of a change.

It is true that some changes could lead to issues developing at a later time in the field. This is in fact what the sum total of the quality control system and early warning testing is designed to counteract. However, subsequent identification of these potential problems occurs through a daily and rigorous process related to testing, process control, process fallout analysis, and other activities and can not necessarily be determined from a simple analysis of the change itself. As a result, NHTSA's best chance of establishing an early warning system, is to work hand in hand with the suppliers to foster improvement of quality systems already in place, and to develop a top level reporting system based on a supplier's ability to meet minimum requirements. Reporting requirements that already exist or could be established in a summary basis would cover results or outputs from the system and be analyzed by NHTSA.

Answers to selected Questions raised in the ANRPM.

Questions Relating to Warranties

1. Should warranty data be reported?

A distinction should be drawn between warranties provided by parties in the supply chain and those provided by vehicle manufacturers to consumers.

- a. Products are returned by participants in the supply chain (e.g., Tier 1 to Tier 2) under purchase order warranty provisions for many reasons unrelated to the performance of the product. Information pertaining to these returns will serve no useful purpose to NHTSA.

Questions Related to Lawsuits

1. What information should be provided about lawsuits?

Lawsuits are an inherently unreliable early warning device for the following reasons:

- Lawsuits are filed as much as two years after the events which gave rise to the lawsuit.
- Lawsuits are typically framed in broad, vague language which gives (often intentionally) little insight into what the suit is all about (e.g., is a lawsuit that alleges that the "safety system was defective" aimed at the seat belts, the airbags, the sensors, some combination of all three or just part of a shot-gun filing with no known, or an intentionally hidden target?).
- Lawsuits are typically framed to include as many defendants as possible which means (a) there will be duplicative reporting by multiple suppliers and the vehicle manufacturer, and (b) it can be difficult, if not impossible to determine the real, or even the apparent target of the claim.

- Lawsuits are often settled, not because of any real defect in a product but because of the risk of an adverse judgment resulting from pro-plaintiff jurisdictions or sympathetic parties – thus, the settlement itself provides no insight as to problems with the product. Moreover, the contents of the settlement must remain confidential so as to not divulge a party's settlement strategy, which would supply a road map to future litigants. While confidentiality could be sought, the FOIA places any such information at risk of disclosure and adds to the burdensome nature of the reporting obligation.
 - Even when a lawsuit is decided against a manufacturer, it is not always clear what the jury believes to be the specific defect is found in a product, or for that matter whether a defect is found at all, since jury instructions are rarely that detailed.
2. If the existence of a lawsuit is to be reported, the reporting should stop there until after the lawsuit has been decided. Discovery rules address what must be disclosed in the course of litigation. Some information is protected by attorney-client, or attorney work product privilege. If defects in the field are uncovered in the course of a legal proceeding there already exists a reporting obligation to NHTSA under current practices. To require the disclosure of information routinely developed during the tendency of a lawsuit will undermine the legal process.

Questions Related to Design Changes

1. Should information about design changes be provided?

No.

- What is a design change? If it is any change to the product (generally what the industry considers a design change), the information would be overwhelming and serve no useful purpose since the vast majority of design changes (and there are many in the life of every product) are benign.
- Presumably designs are changed to improve a product in some way. These improvements are what separate competitors. Disclosing design changes takes away the competitive edge that innovative companies possess. And while confidentiality rules help, nothing can be kept completely secret and even small hints can give away the direction a company may be taking or a design innovation it has come up with.
- The suspicious side of requiring the disclosure of design changes is that the changes were necessary to correct a design defect. First, if there is a defect, current reporting requirements mandate the disclosure of the defect, in all likelihood in advance of the design change that fixes the defect. And if one is inclined to hide the existence of a defect, that same person is also likely to hide the design change that is intended to fix the defect.
- Requiring the disclosure of design changes has the potential to discourage design changes for fear that they will point out inadequacies in what may have once been state of the art technology, thus encouraging litigation.

Questions on Internal Investigations

Should a manufacturer be required to report information on active investigations that it has initiated with respect to potential defects in its vehicles or equipment?

Prudent businesses conduct investigations at even the slightest hint of a defect in a product or process, the majority of which result in a finding of no defect, or the discovery of a defective condition prior to any parts reaching the field. Aside from being burdensome, requiring the reporting of all such investigations serves only to discourage companies and their employees from commencing investigations or raising concerns to higher levels of management.

The appropriate time for a manufacturer to be required to report such investigations should be at the completion of an investigation in which it is determined that an actual defect exists; i.e., current practice.

Questions on Identical and "Substantially Similar" Motor Vehicles and Equipment

The focus should not be on identical or substantially similar *vehicles* or *equipment*, but rather on identical or substantially similar *defects*. For example, recalls most often result from manufacturing rather than design defects in a product. Two identical products might be manufactured in Europe and the US, but a manufacturing change or error in Europe may cause a defect in products manufactured in Europe, which does not exist in the identical product manufactured in the US. On the other hand, a design defect in Europe relating to a particular product will likely also exist in the identical product elsewhere. The focus should be on what makes the product dangerous, not the product itself.

To further complicate the issue, a sub-component or component may be used in a variety of applications but only fail in one, or cause two seemingly unrelated failures due to system level usage and environment. This is especially true of electronic components. Thus the emphasis on what makes a product dangerous may be only applicable to a single product with a defective sub-component that is widely used. An example of this is a capacitor that cracks and is used as a line filter in one design, and a critical cutoff filter in another. Thus in this case the phrase substantially similar does not apply and the focus needs to be on the root failure and the effect on the systems in which the component resides to determine whether the failures have an impact on safety or not.

Attachment to Comments

Rough estimate of Documentation related to
A single Product

Level One

New Program

Product Quality Planning Checklist

1. Feasibility Study (pgs. 10-50)
Total pages 10 - 50

2. Design Quality Planning
 - ◆ Design Failure Mode and Effects Analysis (DFMEA) (pgs. 25-100)
 - ◆ Design for Manufacturability and Assembly (pgs. 25-100)
 - ◆ Design Verification (pgs. 25-200)
 - ◆ Design Reviews (pgs. 200-500)
 - ◆ Prototype Build (pgs.25-100)
 - ◆ Engineering Drawings (including Math Data) (pgs.75-200)
 - ◆ Engineering Specifications (pgs.10-75)
 - ◆ Material Specifications (pgs.10-75)
 - ◆ Drawing and Specification Changes (pgs.25-150)Total pages 420 - 1500

3. Manufacturing Quality Planning
 - ◆ New Equipment, Tooling and Facilities Requirements / Studies (pgs.120-200)
 - ◆ Special Product and Process Characteristics (pgs.5-25)
 - ◆ Prototype Control Plan (pgs.10-50)
 - ◆ Gages / Testing Equipment Requirements (pgs.100-200)
 - ◆ Process Flow Diagram (pgs.10-20)
 - ◆ Process FMEA (pgs.25-100)
 - ◆ Process Control Plan (pgs.25-100)Total pages 295-695

Level Two

Design Reviews

Design Review is an effective method to prevent problems and misunderstandings; it also provides a mechanism to monitor progress and report to management. At a minimum, Design Reviews should include evaluation of:

- ◆ Design / Functional requirement(s) considerations (pgs.2-10)

- ◆ Formal reliability and confidence goals (pgs.2-5)
- ◆ Component / subsystem / systems goals (pgs.5-10)
- ◆ Computer simulation and other tests results (pgs.5-25)
- ◆ DFMEA(s) (pgs.20-50)
- ◆ Design of Experiments (DOE) and assembly build variation analysis (pgs.10-50)
- ◆ Design verification process (pgs.10-100)

Total pages 54 - 250

A major function of Design Reviews is tracking of design verification process.

Level Two Manufacturing

1. Sub – supplier Submittal of PPAP
 - ◆ Inspection Data (100% Full Layout) (pgs.25-100)
 - ◆ Product Testing Data (pgs.25-100)
 - ◆ Material Testing Data (pgs.25-100)
 - ◆ Component Drawing (pgs.25-100)
 - ◆ Shipping / Receiving In Bound / Out Bound (pgs.25-100)
 - ◆ Quotes (pgs.25-654)
 - ◆ Purchase Orders (pgs.25-100)
 - ◆ Sales Order (pgs.25-100)
 - ◆ Routers (pgs.25-100)
 - ◆ Cost Development Training Sheets (pgs.25-100)
 - ◆ Kanban Plan / Cards (pgs.25-150)

Total pages 275 - 1704

2. Process Controls
 - ◆ Process Flow Diagram (pgs.25-50)
 - ◆ PFMEA (pgs.25-275)
 - ◆ Operator Instruction Sheet (pgs.50-100)
 - ◆ Control Plan (pgs. 25-275)
 - ◆ Lot Acceptance Plan
 - ◆ CCT (pgs.10-100)
 - ◆ HydroBurst (pgs.1-15)
 - ◆ 1st Piece Inspection (pgs.1-10)
 - ◆ SPC (pgs.1-15)
 - ◆ Tracibility (pgs.1-10)
 - ◆ NCMR's (pgs.25-100)

Total pages 164 – 950

Grand Total 1218 – 5149

Assumptions:

The above estimates reflect a typical part produced by BREED Technologies. Seatbelts have the largest number of components, while steering wheels have the least. The complexities of the manufacturing process affect the number of documents asymptotically; each additional step generates documentation throughout the system. For a single component the numbers reported above would be valid, at least within the range.

For a vehicle, it would be a different story. There are 12 seatbelt part numbers for a six-passenger vehicle, more for vans and some SUV's. With the addition of the Steering wheel, Driver Airbag, Passenger Airbag, Side Impact Airbags, and Crash Sensors, the number of Breed components in a single vehicle could be as many as 20. This would represent a range of 24,360 to 102,980 pieces of documentation.