This document is scheduled to be published in the
Federal Register on 12/07/2011 and available online at
**http://federalregister.gov/a/2011-31343**, and on **FDsys.gov**

**DEPARTMENT OF TRANSPORTATION**

National Highway Traffic Safety Administration

Denial of Motor Vehicle Defect Petition

**AGENCY:** National Highway Traffic Safety Administration, (NHTSA), Department of Transportation

**ACTION:** Denial of a petition for a defect investigation.

**SUMMARY:** This notice sets forth the reasons for the denial of a petition Defect Petition (DP) 10-004 submitted by Ms. Lalitha Seetharaman (petitioner) with the assistance of Emerick Bohmer to NHTSA by a letter received on November 5, 2010, under 49 CFR part 552. The petitioners request an investigation of brake failure in model year 2005 Honda Accord Hybrid vehicles.

**FOR FURTHER INFORMATION CONTACT:** Mr. Derek Rinehardt, Vehicle Controls Division, Office of Defects Investigation, NHTSA, 1200 New Jersey Avenue, SE, Washington, DC 20590. Telephone 202-366-3642. E-mail derek.rinehardt@dot.gov.

**SUPPLEMENTARY INFORMATION:**

## Section - 1.0 Introduction

Interested persons may petition NHTSA requesting that the agency initiate an investigation to determine whether a motor vehicle or item of replacement equipment does not comply with an applicable motor vehicle safety standard or contains a defect that relates to motor vehicle safety. 49 CFR § 552.1. Upon receipt of a properly filed petition the agency conducts a technical review of the petition, material submitted with the petition, and any additional information. § 552.6. After considering the technical review and taking into account appropriate factors, which

may include, among others, allocation of agency resources, agency priorities, and the likelihood of success in litigation that might arise from a determination of a noncompliance or a defect related to motor vehicle safety, the agency will grant or deny the petition. § 552.8.

## Petition Review – DP10-004

### Section - 2.0 Background Information

Ms. Lalitha Seetharaman of Newton, Pennsylvania (sometimes referred to as "Petitioner"), with the assistance of Mr. Emerick Bohmer, a friend of about a year, filed a petition on November 5, 2010 with NHTSA alleging that she was the driver of a model year (MY) 2005 Honda Accord Hybrid (subject vehicle), VIN JHMCN36425C005487, that experienced a brake failure. The petition states that the incident allegedly occurred on July 23,' 2005, while braking and, at the same time, driving over rumble strips adjacent to her lane of travel on highway I-195 in New Jersey. In her petition, Ms. Seetharaman further alleges the brake failure resulted in a crash, fatally injuring her husband, Mr. Gautama Saroop (the front seat passenger), severely injuring the petitioner (the driver), and severely injuring the two occupants of a MY 1990 Ford Tempo vehicle that was struck by the petitioner's vehicle.

In March of 2005, four months prior to the crash,, Ms. Seetharaman purchased the subject vehicle as a birthday present for her husband. On the evening of the crash, Ms. Seetharaman, who also owns a 1999 Mazda Protégé as her normal usage vehicle, was driving the subject vehicle with her husband as the passenger from their home in Newtown, PA to Bellmawr, NJ. The events leading to the crash and the crash itself are described by Ms. Seetharaman in the petition document and in a vehicle owner questionnaire (VOQ) 10329383 submitted to NHTSA. The two documents contain similar summaries of the event. The Defect Petition, at page 39, states:

> *While traveling East on I-195, I saw that a Police Officer had a vehicle pulled over on the right shoulder of the highway. I moved over to the left lane in order to decrease any chance of an accident with the stopped vehicles. When I did, I crossed onto the rumble strip on the left side of the highway. I applied the brakes while on the rumble strip to bring the vehicle under control, and nothing happened (no brakes) and the vehicle accelerated uncontrollably.*

*I tried to bring the vehicle back on the highway. Both my husband and myself were hoping something would bring the vehicle under control. In a desperate attempt to bring the vehicle under control my husband pulled the emergency brake. Upon pulling the emergency brake, instead of helping to slow down the vehicle, the vehicle further became uncontrollable and started moving in the wrong direction. I clearly remember in the last moments before the vehicle went out of control screaming 'Brakes! Brakes!'*

*The vehicle then began to go sideways before going across the grass median. I later learned from the police report that we went into the westbound lane of the highway where we were immediately struck on the passenger side by a vehicle-traveling west. The vehicle that hit us was then struck from behind by another vehicle.*[1]

In addition to the Ms. Seetharaman's verbatim recollection of events of the crash, in multiple interviews with the petitioner, she supplements the account of the crash with the following information:

(1) Ms. Seetharaman was in a coma for 4 months as a result of injuries suffered during the crash.
(2) The delay in filing the petition was due to the extensive recuperation period from the injuries Ms. Seetharaman suffered in the accident.
(3) The subject vehicle had not been serviced since Ms. Seetharaman and her husband took ownership of the vehicle 4 months prior to the crash.
(4) Ms. Seetharaman stated that the reason for braking was a result of seeing the police traffic stop. There was no traffic immediately in front of her.
(5) She was not using the cruise control feature at the time of the incident.
(6) Mr. Saroop (the petitioner's husband) was the primary driver of the subject vehicle prior to the crash and used the subject vehicle primarily to travel back and forth to work. The petitioner was operating the vehicle the day of the crash because her husband had an eye stigmatism and didn't see well in the evenings.
(7) The petitioner was charged with reckless driving however the charges were dismissed.

[1] The petition document titled "INBC-DP10004-45020P.pdf can be found at http://www-odi.nhtsa.dot.gov/defects/ in the public file of this Defect Petition Analysis, DP10-004.

(8) In 2006, the subject vehicle involved in the crash was disposed of by Ms. Seetharaman's insurance company.

**Section 3.0 - Police Accident Report based Crash Details**

As supporting documentation, the petitioner submitted to the NHTSA a copy of the New Jersey State Police accident report[2]. Based on the report, the crash occurred on July 23, 2005 at 5:48PM near mile post 2.3 on Interstate I-195 in Hamilton Twp, New Jersey. At the time of crash, the weather was approximately 84°F and clear[3]. The first responding officer, who was just completing a traffic stop, witnessed the crash and the sequence of events just prior to the crash. An account of the crash appears in the police accident report prepared by the responding police officer:

*On this date I was on a routine traffic stop on 1-195 eastbound at milepost 2.5 at 1745 hours. As I completed the traffic stop and proceeded to my patrol vehicle SPA288, I witnessed Vehicle #1[Petitioner's vehicle] traveling eastbound on 1-195 towards my location out of control. Vehicle #1 swerved over the left side rumble strip~ came back into the left lane, accelerated back over the left side rumble strip off the roadway through the grass median (shrubbery) and into westbound traffic. Immediately as Vehicle #1entered the left lane of westbound traffic it was struck on the passenger side by Vehicle #2. On impact, Vehicle #1 overturned and Vehicle #2 was struck from behind by Vehicle #3. The accident occurred at 1748 hours and traffic was moderate heading eastbound and westbound. There were no other vehicles traveling in the area of Vehicle #1 when it left the roadway. I immediately notified communications while moving my vehicle closer to the accident scene. The driver and passenger in Vehicle #1 were unconscious and unresponsive. The driver and passenger in Vehicle #2 were also unconscious and unresponsive. The driver of Vehicle # 3 exited her vehicle and I advised her to remain on the shoulder of roadway. Emergency Services were dispatched to the scene immediately.*

Figure 1 contains a graphical account of the crash as noted by the responding officer in the police accident report.

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[2] The police accident report can be found at http://www-odi.nhtsa.dot.gov/defects/ in the public file of this Defect Petition Analysis, DP10-004, on pages 25 through 33 of the defect petition document titled "INBC-DP10004-45020P.pdf"

[3] Historical Information based on weather conditions at the crash location documented on www.wunderground.com. Interviewing the petitioner she also noted the conditions were clear on the day of the incident.

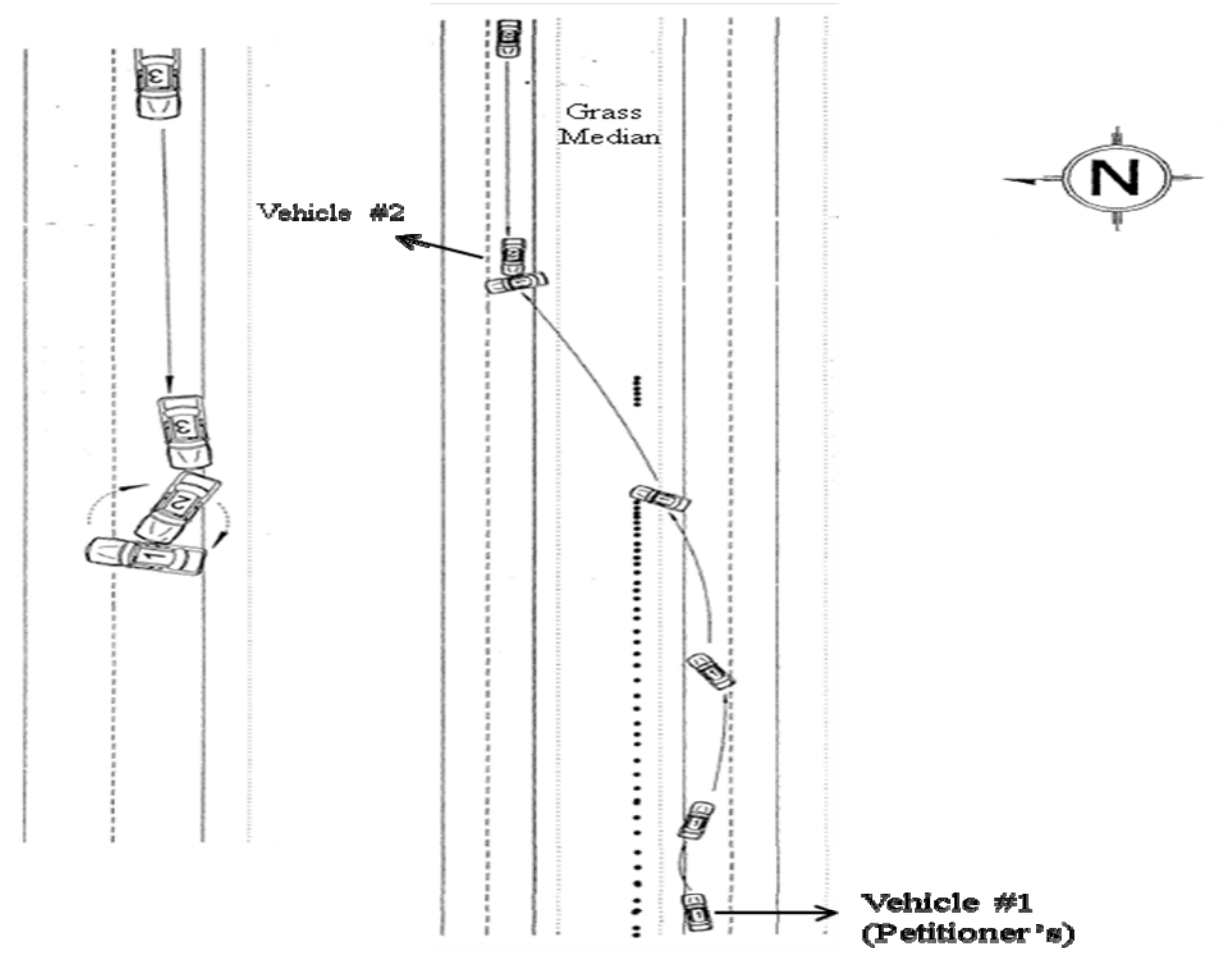


**Figure 1**

## Section 4.0 - Petition Allegation Discussion

In DP10-004, the petitioner identifies MY 2005 Honda Accord Hybrids as the subject vehicles and requests that NHTSA investigate and recall all Honda Civic Hybrid vehicles for a braking defect alleged to be similar to the defect addressed by recall 10V-039 (MY 2010 Toyota Prius vehicles).[4] In the defect petition, the petitioner makes six allegations, each of which is individually addressed herein.

[4] Details of recall 10V-039 can be found at http://www-odi.nhtsa.dot.gov/recalls/recallsearch.cfm

**Allegation 1: The petitioner alleges that she "applied the brakes while on the rumble strips to bring the vehicle under control, and nothing happened (no brakes)." The petitioner further alleges "the vehicle accelerated uncontrollably."[5]**

As the crash occurred in July of 2005 and the vehicle was indisposed at the time the petition was filed nearly 5 years after the crash, NHTSA was not able to conduct a vehicle inspection of the subject vehicle. NHTSA conducted vehicle testing on an exemplar subject vehicle at its Vehicle Research and Testing Center (VRTC) in East Liberty, OH. NHTSA could not replicate a brake failure similar to that described by the petitioner in testing of an exemplar vehicle. Results of the testing are summarized in Section 6.0 of this report. Complete testing results are also available in the public file of this defect petition.

With regard to the petitioner's association of the incident she experienced and the defect condition addressed by Toyota in recall 10V-039, significant differences are noted between the subject and recalled vehicles: (1) the vehicles use fundamentally different hybrid systems, including different hybrid and brake system architectures and brake control logic; (2) the condition addressed by Toyota in recall 10V-039 was associated with slight differences in brake line pressure caused by switching of the brake hydraulic circuit from linear to hydraulic mode following antilock brake (ABS) activation; and (3) the brake hydraulic circuit in the subject vehicles does not change when ABS is activated. The Toyota Prius braking complaints associated with the condition addressed by recall 10V-039 described symptoms related to brief disruptions in expected braking decelerations following ABS activation. None of the associated Toyota complaints alleged an uncontrollable acceleration event.

**Allegation 2: The petitioner alleges that the police accident report shows that, aside from the alleged defect in the subject vehicle, there were no other contributing factors to the crash.[6]**

[5] Allegation noted by the petitioner on page 39 of the defect petition document titled "INBC-DP10004-45020P.pdf" in the public file of DP10-004. The file can be found at http://www-odi.nhtsa.dot.gov/defects/
[6] Allegation noted by the petitioner on page 6 of the defect petition document titled "INBC-DP10004-45020P.pdf" in the public file of DP10-004. The file can be found at http://www-odi.nhtsa.dot.gov/defects/

The police accident report does not mention or suggest a vehicle-based defect existed or contributed to the subject vehicle's crash. Rather, in the Police Accident report,[7] the investigating police officer, who was also a witness to the crash, states:

> *As I completed the traffic stop and proceeded to my patrol vehicle SPA288, I witnessed Vehicle #1 traveling eastbound on 1-195 towards my location out of control Vehicle #1 swerved over the left side rumble strip~ came back into the left lane, accelerated back over the left side rumble strip off the roadway through the grass median (shrubbery) and into westbound traffic. Immediately as Vehicle #1 entered the left lane of westbound traffic it was struck on the passenger side by Vehicle #2. On impact, Vehicle #1 overturned and Vehicle #2 was struck from behind by Vehicle #3. The accident occurred at 1748 hours and traffic was moderate heading eastbound and westbound. There were no other vehicles traveling in the area of Vehicle #1 when it left the roadway.*

The police accident report notes that the petitioner's vehicle "*swerved over the left side rumble strip~ came back into the left lane, accelerated back over the left side rumble strip off the roadway.*" This statement suggests the vehicle may have been out of control ('swerved') prior to traveling over the rumble strips.

**Allegation 3: The petitioner asserts that the Honda's Integrated Motor Assist (IMA) technology used in the Honda Accord Hybrid and the Honda Civic Hybrid have identical designs[8].**

The IMA technologies used by Honda in the Accord Hybrid and Civic Hybrid models have some similarities; however, several differences exist with regard to brake control. In fact, within the Honda Civic Hybrid model, differences exist between the first generation (MY 2003–2005) and the second generation (MY 2006–2011). All of Honda Hybrid vehicles discussed in this defect petition analysis utilizes a different braking strategy than that in the Toyota Prius.

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[7] The police officer's full statement can be found on page 27 of a document titled "INBC-DP10004-45020P.pdf" at http://www-odi.nhtsa.dot.gov/defects/ in the public file of this Defect Petition Analysis, DP10-004.

[8] Allegation noted by the petitioner on page 2 of the defect petition document titled "INBC-DP10004-45020P.pdf" in the public file of DP10-004. The file can be found at http://www-odi.nhtsa.dot.gov/defects/

## Braking Function in Honda Hybrid Vehicles

Because the petitioner alleged a braking failure prior to the crash, this section will give a brief overview of the brake system function during normal and ABS braking events.

### Braking Function in a non-ABS Braking Event

The braking strategy for all three Honda Hybrid models have similarities incorporating regenerative braking (the electric motor is used as a generator to supplement braking while recharging the vehicle's batteries), in addition to traditional hydraulic braking. The models differ in the integration of the regenerative braking system into the overall braking system. These differences are as follows:

1. **Honda Accord Hybrid (manufactured only during MY 2005 – 2007)**

   When the accelerator pedal is OFF (not depressed), a regenerative braking force equivalent to internal combustion engine braking is generated (Accelerator OFF regeneration). When the brake is operated, the regenerative braking force is increased proportional to operation amount (master cylinder hydraulic pressure). Regenerative braking force varies according to vehicle speed. The maximum regenerative deceleration during brake ON regeneration varies according to the amount of brake operation (master cylinder hydraulic pressure).

2. **Honda Civic Hybrid 1st Generation (MY 2003 – 2005)**

   When the accelerator pedal is OFF, the regenerative braking force equivalent to the engine brake is generated (Accelerator OFF regeneration). Differing from the Honda Accord Hybrid, when the brake is operated, regenerative braking force is increased when brake lamp switch is ON (Brake ON regeneration). Regenerative braking force varies according to vehicle speed.

3. **Honda Civic Hybrid 2nd Generation (MY 2006 – 2011)**

   When the accelerator pedal is OFF, the regenerative braking force equivalent to the engine brake is generated (Accelerator OFF regeneration). Like the Civic 1st generation, when the brake pedal is operated, regenerative braking force is increased when the brake lamp switch is ON. (Brake On regeneration). However, this model differs from the Accord and 1st generation Civic models in that the regenerative braking force is increased according to the amount of brake operation, and hydraulic braking force equivalent to regenerative braking force is controlled in the direction of

reduction to generate braking force required by the driver by both regeneration and hydraulic braking (Cooperative regeneration). The regenerative braking force varies according to vehicle speed.

**Braking Function in an ABS Braking Event**

Traveling over rumble strips while braking, as the petitioner alleges preceded her crash, may cause wheel slip and activate the ABS (as was shown in testing conducted by NHTSA summarized in Section 6.0 of this document). However, in all Honda Hybrids referenced herein, the reduction in braking force is designed to be an insignificant amount when the ABS is activated. The hydraulic braking, which is controlled by the ABS, is still present. As previously discussed, the brake hydraulic circuit is not changed/switched when ABS is activated, which was the condition addressed by the Prius recall. The petitioner alleges that, in her incident, there were "no brakes" and the vehicle accelerated uncontrollably. The petitioner's allegation of a "loss" of braking and subsequent acceleration is at odds with NHTSA testing and the design of the braking system in the subject vehicles.

**1. Honda Accord Hybrid (MY 2005 – 2007)**

When the ABS is activated, the regenerative braking force is reduced and the ABS is controlled by hydraulic braking. While the ABS is active, the reduced regenerative braking force is maintained until the brake is released / vehicle stops. The reduction of regenerative braking force amounts to a relatively small portion of the total brake force (hydraulic braking + regenerative braking). The hydraulic braking system is very similar to the traditional hydraulic system in the standard Accord models.

**2. Honda Civic Hybrid 1st Generation (MY 2003 – 2005)**

Differing from the Accord Hybrid, when the ABS is activated, the regenerative braking is ***stopped*** and the ABS is controlled by hydraulic brake. While the ABS is working, the stopped regenerative braking condition is maintained until the brake is released / vehicle stops. When a certain brake pedal effort is maintained while ABS is active, the total braking force is reduced by a relatively small amount equal to the reduction of regenerative braking force.

**3. Honda Civic Hybrid 2nd Generation (MY 2006 – 2011)**

When the ABS is activated, the brake ON regenerative braking ceases and the accelerator OFF regenerative braking force is reduced. The ABS is controlled by the hydraulic braking system. While the ABS is active, the reduced regenerative braking force is maintained until the brake is released / vehicle stops. When a certain brake pedal effort is maintained while ABS is active the total braking force is reduced by a relatively small amount equal to the reduction of the regenerative braking force.

In summary, all the Honda Hybrid models discussed in herein maintain traditional hydraulic braking functionality in the case of non-ABS braking events or ABS braking events. The reduction or cessation (in the case of the 1st generation Honda Civic) in regenerative braking is a small portion of the total braking force. As stated and explained, above, the petitioner's allegation of a "loss" of braking is inconsistent with the design of the braking system in the subject vehicles.

**Allegation 4: The petitioner asserts that the number of Honda complaints as compared to the number of Toyota Prius complaints received by NHTSA is lower because the braking problem has been largely ignored by Honda Hybrid owners due to the lack of media coverage.[9]**

The Office of Defects Investigation (ODI) opened investigation PE10-006 on February 3, 2010 to investigate consumer allegations of momentary disruptions in expected vehicle decelerations during brake applications while traveling over a road disturbance such as a pothole or a bump in the road in 3rd generation (MY 2010) Toyota Prius Hybrid vehicles. The number of Prius complaints before the media coverage is more than all of the Honda Hybrid models combined. This fact does not support the petitioner's allegation that media coverage increased the number of Prius complaints and that the lack of media coverage explains the small number of the Honda Hybrid models complaints.

As noted in Table 1, prior to February 3, 2010 (before PE10-006 was opened) and before there was any significant media coverage regarding the braking defect (highlighted in NHTSA Recall

[9] Allegation noted by the petitioner on page 5 of the defect petition document titled "INBC-DP10004-45020P.pdf" in the public file of DP10-004. The file can be found at http://www-odi.nhtsa.dot.gov/defects/

number 10V-039) in Toyota Prius vehicles, there was only one (1) similar complaint to NHTSA involving a Honda Hybrid vehicle (Honda Civic Hybrid) that was similar in nature to the Toyota Prius braking issue. During this time, there were no similar complaints related to the subject vehicles (Honda Accord Hybrids).

| | Complaints Received by NHTSA prior to 2/3/2010 | | | | |
|---|---|---|---|---|---|
| | | Vehicle Population | "Loss" of brakes while braking over a road disturbance or slippery road surfaces | | |
| | | | Complaints to NHTSA | Complaint Rates (/100K) | Alleged Crashes |
| Honda | **Honda Accord Hybrid** (MY 2005 - 07) | 27,166 | 0 | **0.0** | 0 |
| | **Honda Civic Hybrid 1st Gen** (MY 2003 - 05) | 82,294 | 0 | **0.0** | 0 |
| | **Honda Civic Hybrid 2nd Gen** (MY 2006 -10) | 122,657 | 1 | **3.3** | 0 |
| Toyota | **Recalled Toyota Prius 3rd Generation** (MY 2010) | 148,683 | 124 | **83.4** | 4 |

Table 1

By contrast, before February 3, 2010, NHTSA received 124 complaints related to braking in MY 2010 Toyota Prius vehicles. The Honda Hybrid vehicles had up to 7 years of field exposure but only one complaint prior to the recall of the Toyota Prius.

The effect of publicity was not reflected in complaints to NHTSA until February 3, 2010. Subsequently, over a two day period February 3rd and 4th, over 700 complaints were received by the NHTSA related to braking issues in MY 2010 Toyota Prius vehicles.

**Allegation 5: The petitioner asserts that Technical Service Bulletin (TSB) 05038[10] may be related to the alleged brake failure incident that is the subject of the petition. Further, the petitioner also suggests that if Honda was aware of a problem with the Hybrid braking**

[10] See public file of DP10-004 at http://www-odi.nhtsa.dot.gov/defects/ for copy of the TSB.

**system on its vehicle prior to the issuance of TSB 05038 this would be a violation of the Tread Act.[11]**

By way of background, in November of 2005, Honda mailed owner notification letters of a product update in MY 2005 Honda Accord Hybrid vehicles identified as TSB 05038. In the letter, Honda states:

> *The problem: The computer software in your vehicle needs to be updated. Without the update, a technician, using a scan tool in generic mode on your vehicle could cause damage to your vehicle's electric motor battery and/or cause the engine computer to falsely signal engine misfires.*

The problem addressed by TSB 05038 could occur if a scan tool was previously used by a service technician. In multiple ODI interviews with the petitioner, the petitioner noted that the vehicle was purchased on March 23, 2005, and that, until the crash on July 23, 2005, the vehicle was not taken to a dealer for routine maintenance or any other repairs. Thus, a scan tool was not used between the time the petitioner and her husband took ownership of the vehicle and the crash. In addition, the potential consequences of the TSB condition are not related to the defect alleged by the petitioner or any other aspect of vehicle brake system performance.

The defect petition notes and interviews with the petitioner confirm that there were no signs of an engine misfire condition or any warning of a low battery condition. Based on all of these factors, it is unlikely that the conditions described in TSB 05038 have relevance to the crash on July 23, 2005.

The defect petition suggests that the Transportation Recall Enhancement, Accountability, and Documentation Act, commonly referred to as the TREAD Act, is what obligates the manufacturer to report a TSB to NHTSA. In fact, the reporting requirement for TSBs predates the TREAD Act[12]. In

[11] Allegation noted by the petitioner on page 3 of the defect petition document titled "INBC-DP10004-45020P.pdf" in the public file of DP10-004. The file can be found at http://www-odi.nhtsa.dot.gov/defects/

[12] Technical Service Bulletins fit into a category of communications sent to more than one manufacturer, distributor, dealer, lessor, lessee, or purchaser regarding any defect, regardless of safety-relatedness, in a vehicle or item of equipment. Prior to 2002, the requirement to submit this information was found in 49 CFR 573.8. With the passage of the TREAD Act, the section 573.8 requirement was moved from Part 573 to Part 579. 67 Fed.Reg. 45873, 45824 (July 10, 2002). It now appears at 49 CFR 579.5.

conformance with the regulation, Honda submitted a copy of the TSB to NHTSA in November of 2005.

**Allegation 6: Prior to the petitioner's crash on July 23, 2005, NHTSA had received two *complaints regarding braking problems with Honda Hybrid vehicles* when braking on bump, or uneven surfaces (ODI# 10315534, & 10311198). In the following months, there were two additional complaints (ODI# 10306871, & 10307268), one of which resulted in a crash. NHTSA is uncertain if Honda had knowledge of the fatal crash in a fifth complaint belonging to the petitioner (ODI# 10329383)[13].**

This section separately reviews each of these five complaints.

**ODI # 10315534**

On March 3, 2010 NHTSA received this complaint, involving a MY 2003 Honda Civic Hybrid. The incident date noted in this complaint was January 1, 2003, nearly 7 years before the complaint was filed with the NHTSA. Also, contrary to the petitioner's assertion that the complaint was received by the NHTSA prior to her crash in 2005, the complaint was filed with the NHTSA more than 4 years after the petitioner's crash.

The complaint description stated:

> *Braking while on a bumpy road occasionally results in a delay of the braking action. We thought this was part of the ABS system, but there was no ABS "feel" in the brake pedal. With the Toyota problem description, we now feel it may be a similar problem. Only occurs while braking on rough pavement.*

**ODI # 10311198**

On February 17, 2010 NHTSA received this complaint, involving a MY 2005 Honda Civic Hybrid. The incident date noted in this complaint was June 8, 2005, more than 4 years before the complaint was filed with the NHTSA. Also, contrary to the petitioner's assertion that the complaint was received by the NHTSA prior to her crash in 2005, the complaint was filed with the NHTSA more than 4 years after the petitioner's crash.

[13] Allegation noted by the petitioner on page 3 of the defect petition document titled "INBC-DP10004-45020P.pdf" in the public file of DP10-004. The file can be found at http://www-odi.nhtsa.dot.gov/defects/

The complaint description stated:

> *The contact owns a 2005 Honda Civic Hybrid. The contact stated as he is coming to a stop and stepped on his brakes or hit a bump he loses his brakes it felt as if there is no brakes. The vehicle was taken to the dealer and contact was told this is normal. The manufacture was also call and inform contact they will give him a return call but they never did....The consumer stated the problem has been persistent since the vehicle was purchased and still continues.*

**ODI# 10306871**

On February 6, 2010, NHTSA received this complaint, involving a MY 2003 Honda Civic Hybrid. The incident date noted in the complaint was August 15, 2005, more than 4 years before the complaint was filed with the NHTSA. Also, contrary to the petitioner's assertion that the complaint was received by the NHTSA prior to her crash in 2005, the complaint was filed with the NHTSA more than 4 years after the petitioner's crash.

The complaint description stated:

> *I wish to make notice to NHTSA that the issue in braking for Prius vehicles would seem to me to be related, in general, to hybrids, built in Japan, and not just Toyota. I have an '03 Honda Civic hybrid, and it has issues. It has been in an accident back in '05 and what was the issue? Braking! The car went out of control under heavy braking (though all these vehicles have 4 whl ABS) in an "animal-avoidance" attempt. I ended up careening side-wise sliding until colliding with a utility pole, at the passgr side "a" pillar. Raccoon didn't survive. I had noticed on several occasions that the abs, upon encountering bumps or jolts of any significant degree, will "cut-out" momentarily, and further, the "engine-braking' associated with the hybrid motor-generator also cuts out and does not return (until after the stop has been concluded using only the available braking methods left)(no abs "chatter" is to be observed in these scenarios). The phenomenon is definitely reproducible; I have often found that such bumps are virtually unavoidable on certain places I commonly drive near my home. It is such an issue that I have learned to try to compensate for that when driving over these bumpy places, but one can't compensate when encountering same in a new, unfamiliar area/situation.*

*Please do look into the concept that it could be more of a Japanese made ABS system-fault , (possibly including engine-regenerative braking system) rather than a Toyota-only thing. I would request that my note be acknowledged, myself be contacted so as to provide any further info needed, and my contact info be retained so as to be contacted regarding subsequent resolutions, ie recalls/legal cases/settlements. By the way, i had not "collision" insurance, thus I paid to repair my HCH [Honda Civic Hybrid] post that accident. I still drive the car today, though anyone would have called it "totaled". Tires- were the same set installed as OEM, were at least 60% even at 51k, they readily wore out afterwards-post-acc alignment issues.*

ODI made several unsuccessful attempts to contact this complainant in order to obtain additional information on the incident. After finally making contact with the consumer approximately 5 months after the initial attempt, the consumer stated that he did not recall many of the incident's details. The complaint stated that, preceding the alleged crash, the driver was making an "animal avoidance" maneuver that resulted in the vehicle careening side-ways and sliding until eventually colliding with a utility pole. The complaint does not mention the vehicle travelling over a road disturbance or road conditions that may have trigged the ABS to function. In this incident, ODI has no basis upon which to determine whether the alleged crash could have involved a brake related failure.

**ODI # 10307268**

This complaint was filed with NHTSA on 2/7/2010 involving a MY 2005 Honda Civic hybrid. The incident date noted in the complaint was 9/01/2005 was noted, more than 4 years before the complaint was filed with the NHTSA.. Also, contrary to the petitioner's assertion that the complaint was received by the NHTSA prior to her crash in 2005, the complaint was filed with the NHTSA more than 4 years after the petitioner's crash.

The complaint description stated:
"There was a "momentary loss of braking capability while traveling over an uneven road surface, pot hole or bump."

ODI was able to contact the consumer for further information regarding the incident. In response to a survey sent by ODI to obtain more details about the incident described in the complaint, the

complainant stated: "*I am still driving the car and have not had any problems with the brakes, so it probably is not a problem. Sometimes it feels like the car will not stop, but it always does.*"

**ODI # 10329383**

On May 8, 2010, the petitioner filed this complaint. The details of this complaint are discussed in detail Section 2 and Section 3 of this document.

In summary, the petitioner's assertion that the complaints reviewed in this section were received by the NHTSA prior to or shortly after her incident is not accurate. Rather the complaints were received by the NHTSA years after the incident dates and just after the opening of the Toyota Prius investigation PE10-006.

## Section 5.0 - NHTSA Field Experience Analysis

### [1]. Petitioner Identified Complaints to NHTSA

As supporting information, the petition included twenty four complaints filed with NHTSA as summarized in Table 2:

| Petitioner Referenced Complaints | | | | |
|---|---|---|---|---|
| Model | Complaints | Complaint Nature | | |
| | | Brake Related with Reference of Road Disturbance while Braking (Pothole, etc.) | Other Brake Related | Non Brake Related |
| **Honda Accord Hybrid** (MY 2005 - 07) | 2 | 2 | 0 | 0 |
| **Honda Civic Hybrid 1st Gen** (MY 2003 - 05) | 11 | 7 | 2 | 2 |
| **Honda Civic Hybrid 2nd Gen** (MY 2006 -10) | 11 | 2 | 6 | 3 |
| **Total** | **24** | **11** | **8** | **5** |

**Table 2**

Analysis of these complaints reveals that only two involve MY 2005 Honda Accord Hybrid vehicles. One of the two is the complaint filed by the petitioner. Eleven of the total 24 complaints allege an issue with the brakes not performing as expected while braking over a road disturbance (e.g., a pothole, bump or railroad tracks,). The statements regarding braking in these complaints are similar to complaints regarding braking in third generation Toyota Prius vehicles. Only one of these

eleven complaints allege a crash occurred caused by a brake failure while simultaneously braking and traveling over a road disturbance; this one complaint was the petitioner's complaint.

**[2]. Current Complaints to NHTSA (as of October 2011)**

NHTSA has conducted a more exhaustive search of its complaint database than went beyond what the petitioner submitted for braking complaints similar to those identified in the Toyota Prius investigation. For example, additional complaints were found using a keyword search of the description field of the complaints for the word "hybrid" where a vehicle model was absent or improperly coded as a standard model). In total, three complaints filed by Honda Accord Hybrid owners (including the petitioner's complaint) were found to be similar to complaints regarding braking in third generation Toyota Prius vehicles.

| DP10-004 Field Experience - NHTSA Complaints | | | | |
|---|---|---|---|---|
| | Population | Reduction of Braking / Accel while braking over Road Disturbances | | |
| | | VOQs | Rates (/100K) | Crashes |
| **Honda Accord Hybrid** (MY 2005 - 07) | 27,166 | 3 | **11.0** | 1 |
| **Honda Civic Hybrid 1st Gen** (MY 2003 - 05) | 82,294 | 9 | **10.9** | 1 |
| **Honda Civic Hybrid 2nd Gen** (MY 2006 -10) | 122,657 | 2 | **3.3** | 0 |
| **Toyota Prius 3rd Gen** (MY 2010) | 133,459 | 1,126* | **843.7** | 33 |

* Complaints at the time of recall 2/9/2010

**Table 3**

By contrast, on February 9, 2010, when Toyota announced a safety recall for the 3rd generation Toyota Prius, NHTSA had received 1,126 complaints including 33 alleged crashes related to the consumer's perception of a momentary loss of braking while simultaneously braking and driving over road disturbances. The complaint rate for Prius far exceeded that of all the Honda Hybrid vehicles not only separately, but also combined.

## [3]. Honda Complaint / Warranty Claim Data Summary

In ODI's Information Request letter to Honda, the alleged defect was broadly written as a "reduction in braking performance and/or braking failures."

Based on this alleged defect definition, Honda searched its consumer complaint and warranty claim databases for related complaints and warranty claims. ODI's analysis of the Honda data (summarized in tables 4 and 5) produced one complaint and no warranty claims similar to the Toyota Prius problem of a momentary reduction of braking while braking over road disturbances.

| DP10-004 Field Experience - Honda Complaints | | | | |
|---|---|---|---|---|
| | Population | Reduction of Braking / Accel while braking over Road Disturbances | | |
| | | Manf | Rates (/100K) | Crashes |
| **Honda Accord Hybrid** (MY 2005 - 07) | 27,166 | 0 | **0.0** | 0 |
| **Honda Civic Hybrid 1st Gen** (MY 2003 - 05) | 82,294 | 1 | **1.2** | 0 |
| **Honda Civic Hybrid 2nd Gen** (MY 2006 -10) | 122,657 | 0 | **0.0** | 0 |

**Table 4**

| DP10-004 Field Experience - Honda Warranty Claim Data | | | |
|---|---|---|---|
| | Population | Reduction of Braking / Accel while braking over Road Disturbances | |
| | | Manf | Rates (%) |
| **Honda Accord Hybrid** (MY 2005 - 07) | 27,166 | 0 | **0.0** |
| **Honda Civic Hybrid 1st Gen** (MY 2003 - 05) | 82,294 | 0 | **0.0** |
| **Honda Civic Hybrid 2nd Gen** (MY 2006 -10) | 122,657 | 0 | **0.0** |

**Table 5**

## Section 6.0 - NHTSA Vehicle Testing

In order to better understand the braking characteristics when the ABS is engaged in the subject vehicle, NHTSA acquired a MY 2005 Honda Accord Hybrid for testing purposes. The vehicle was tested in Ohio at NHTSA's Vehicle Research Testing Center (VRTC) on a variety of road surfaces, including rumble strips and split coefficient of friction surfaces (asphalt / epoxy), that could trigger the ABS system to function. The results of the testing can be found in the public file associated with this Petition analysis[14].

In short, the testing showed that the Honda Accord hybrid brake system (including the ABS) is a robust system that worked in all of the following simulated road surfaces and situations: momentary perturbations, continuous rumble strips, braking then entering a rumble strip, and asphalt/epoxy split-coefficient situations. Moreover, the crash was preceded by the use of the parking brake.

The petitioner's account of the events just preceding the crash states:

*In a desperate attempt to bring the vehicle under control my husband pulled the emergency brake. Upon pulling the emergency brake, instead of helping to slow down the vehicle, the vehicle further became uncontrollable and started moving in the wrong direction.*

The responding police officer's account of the events preceding the crash states:

*Vehicle #1 swerved over the left side rumble strip~ came back into the left lane, accelerated back over the left side rumble strip off the roadway through the grass median (shrubbery) and into westbound traffic.*

Because the petitioner noted that her husband applied the parking brake (located between the driver and the passenger) during the sequence of events just prior to the crash, a portion of the VRTC testing was designed to show the effects of applying the parking brake. The testing showed that the application of the parking brake while on a rumble strip or split-coefficient of friction surface results in a high rate of vehicle yaw (angle change rotating around the vertical axis) that is uncontrollable because the locking of the rear wheel decreases its ability to resist lateral forces.

[14] The complete testing report for DP10-004 can be found at http://www-odi.nhtsa.dot.gov/defects/

Based upon the inspections and tests of a 2005 Honda Accord hybrid vehicle and the allegations by the petitioner of a brake failure, the following conclusions were noted by VRTC.

1) The Honda Accord hybrid brake system and ABS was found to be a robust system that could easily handle momentary perturbations, continuous rumble strips, braking then entering a rumble strip, and asphalt/epoxy split-co situations.

2) Since a locked rear wheel cannot resist lateral forces, the application of the parking brake while on a rumble strip or split-co surface resulted in a high rate of vehicle yaw that was uncontrollable.

## 7.0 CONCLUSION

In our view, additional investigation is unlikely to result in a finding that a defect related to motor vehicle safety exists. Therefore, in view of the need to allocate and prioritize NHTSA's limited resources to best accomplish the agency's safety mission, the petition is denied. This action does not constitute a finding by NHTSA that a safety-related defect does not exist. The agency will take further action if warranted by future circumstances.

Authority: 49 U.S.C. 30162(d); delegations of authority at CFR 1.50 and 501.8.

Issued on: November 22, 2011

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Billing Code 4910-59-P

[FR Doc. 2011-31343 Filed 12/06/2011 at 8:45 am; Publication Date: 12/07/2011]