



October 25th, 2011

Mr. Claude Harris
Acting Associate Administrator for Enforcement
NATIONAL HIGHWAY TRAFFIC SAFETY
ADMINISTRATION
Attn: Recall Management Division (NVS-215)
1200 New Jersey Avenue, SE
Washington, DC 20590

**Re: Recall Notification
2006~2011 Orion VII Hybrid Transit Bus**

Dear Mr. Harris:

On October 24th, 2011 Daimler Buses North America (DBNA) determined that a defect relating to motor vehicle safety exists in of certain 2006 and 2008~2011 model year Orion VII hybrid transit buses and is furnishing notification to the National Highway Traffic Safety Administration in accordance with 49 CFR Part 573 Defect and Noncompliance Reports.

The reportable defect occurs in hybrid transit buses containing Lithium Ion Energy Storage Systems (Li-Ion ESS) supplied by BAE Systems Inc. (BAE). BAE will perform the remedy on the affected vehicles and supply completion data to DBNA for quarterly completion reporting requirements.

573.6(c)(1)

Name of manufacturer: Daimler Buses North America

Manufacturer's agent: Bill Nicolle
Daimler Buses North America
350 Hazelhurst Road
Mississauga, Ontario L5J 4T8
Canada

573.6(c)(2)

Identification of potentially affected vehicles:

<u>Make/Model</u>	<u>Description</u>	<u>VIN Range/Dates of Manufacture</u>
Orion VII Li-Ion Hybrid	Certain 2008 model year	1VHHH3P2886703752 (July 2008) <u>to</u> 1VHHH3P2X86704658 (Feb. 2009)
	Certain 2009 model year	1VHHH3P2X96704581 (Jan. 2009) <u>to</u> 1VHHH3P2496705340 (Feb. 2010)
	Certain 2010 model year	1VHHH3P24A6705911 (Jan. 2010) <u>to</u> 1VHHH3V27A6707350 (Feb. 2011)
	Certain 2011 model year	1VHHH3V23B6707377 (Feb. 2011) <u>to</u> 1VHHH3V58B6707739 (Aug. 2011)
	Orion VII lead acid converted to Li-Ion ESS	Certain 2006 model year

Description of the basis for the determination of the recall population:

The recall population is based on manufacturing records. The VIN range reflects all possible vehicles that could potentially experience the problem.

573.6(c)(2)(iv)

Identification of affected component:

Component: Integrated Hybrid Electric/Lithium Ion Energy Storage System (Li-Ion ESS)
Country of Origin: United States
Manufacturer: BAE Systems
Contact Name: Mr. Scott D. Hatch
Address: 600 Main Street, Johnson City, New York. 13790
Telephone No. : (607)755-6560 / scott.d.hatch@baesystems.com

573.6(c)(3)

Total number of potentially affected vehicles: 1,300
(1,214 OE units and 86 converted units)

573.6(c)(4)

Percentage of affected vehicles that contain the defect: 100%

573.6(c)(5)

Defect Description:

Over time, particulate debris can accumulate in the hybrid systems' Li-Ion Storage System (Li-Ion ESS). Accumulated debris in conjunction with moisture can breach the electrical isolation of the high voltage battery pack. A conductive path can be created if the electrical isolation is breached at both ends of the battery, and could result in the unintentional discharge of the battery's stored energy, creating the risk of smoke, melting and charring of the Li-Ion ESS internal components and the possible damage of adjacent materials.

573.6(c)(6)

Chronology:

DBNA received two reports of field failures from the New York City Transit Authority in early January 2011.

DBNA initiated an investigation and, along with the supplier, BAE Systems, inspected the affected vehicles.

DBNA received two additional reports from the Toronto Transit Authority (TTC) in February and March 2011. Initially the failures appeared to be associated with snow ingress in those locales and recent snow storm conditions.

BAE undertook extensive simulation testing and field analysis to determine the root cause of the failures.

During the course of the investigation, DBNA received reports of two additional failures from the TTC and Ottawa-Carleton in April and May of 2011. These failures occurred during different climatic conditions and entailed further testing, analysis and evaluation to determine the underlying cause of the failures with the Electrical Storage System (ESS).

The investigation was completed in October 2011 at which point DBNA determined that a safety related defect exists due to accumulation of debris and moisture in the Li-Ion ESS.

573.6(c)(8)(i)

Program for remedying the defect:

A contactor will be installed in the Li-Ion ESS which will be used to break the current flow in cases where the electrical isolation is breached at both ends of the battery. Additionally, the Li-Ion ESS will be modified to disable the Li-Ion ESS operation when a breach of the electrical isolation is detected. This remedy will be coordinated by BAE Systems starting in January 2012.

