

Memorandum



Date: June 19, 2012

To: Honorable Chairman Joe A. Martinez
and Members, Board of County Commissioners

From: Carlos A. Gimenez
Mayor 

Subject: Report on MIA Mover Incident at Miami International Airport

This memorandum is provided in response to Commissioner Dennis C. Moss' request at the May 15, 2012, Board of County Commissioners meeting for an update regarding the May 13, 2012, derailment of the MIA Mover Automated People Mover (APM) at Miami International Airport (MIA). The information in this memorandum was filed with the National Transportation Safety Board (NTSB) and the Florida Department of Transportation (FDOT) on May 18, 2012. The preliminary estimate of the damage to the vehicle and wayside is approximately \$400,000.

An initial investigation report was prepared by Mitsubishi and Crystal Movers. On May 13, 2012, at approximately 11:03 a.m. Vehicle #3 of the MIA Mover APM derailed on the southern track at the crossover near the Miami Intermodal Center (MIC) Station while heading eastbound from MIA. Upon entering the crossover, the front-left guide-wheel assembly of the rear car detached from the vehicle, tilting the vehicle to the right, and pushing the guide beam to the guide-rail edge. Power to the guideway was automatically and immediately shut down.

Twelve passengers on the train were evacuated onto the guideway by Crystal Movers and Miami-Dade Police. Two passengers suffered from minor injuries and were treated at the site. No passengers were hospitalized and no serious injuries were reported.

Vehicle #3 had last undergone maintenance the day before the incident. While maintenance was not performed on the guide-wheel assembly itself, the guide-wheel assembly was removed and re-installed. The vehicle was then subjected to continuous operational testing through the night of May 12, 2012, and was put back into service the following morning.

From initial inspection, it appears that the four bolts that held the guide-wheel assembly in place had come loose. The initial conclusion is that the guide-wheel assembly bolts were not properly torqued and worked loose, resulting in the detachment of the guide-wheel assembly. The bolts that attached the guide-wheel assembly did not appear to be damaged.

The guide-wheel assembly bolts on all other vehicles were removed, cleaned, inspected, and then reinstalled and torqued in accordance with the Operations & Maintenance (O&M) Manual. A maintenance safety bulletin was issued to all O&M staff to highlight the importance of verifying that all bolts must be sufficiently torqued and verified in accordance with the O&M Manuals, and that old torque marks must be removed. Torque marks on the guide-wheel assembly bolts are visually inspected every three days. This is a "read and sign" bulletin that requires the signature of all O&M technicians.

After verifying the proper operational condition of the other vehicles, and after clearing debris from the guideway, the guideway was re-energized at 4:08 p.m. on May 14, 2012, and vehicle tests commenced. At approximately 7 a.m. on May 15, 2012, double shuttle service recommenced with a four-car train operating on the North track and a two-car train operating on the South track.

Mitsubishi vehicle engineers are studying the damaged vehicle to determine the necessary activities and schedule to repair the train. Several power rails and guiderail support posts were

damaged. Required parts will be replaced as soon as possible in order to restart normal operations within the next four weeks.

Moving forward, changes to sign-off procedures and training will be implemented. Presently, every maintenance activity must be signed by the technician performing the work, as well as by the supervisor. For safety critical maintenance activities, a step-by-step sign-off procedure will be implemented requiring two signatures for each step of the maintenance activities. This will ensure that no steps are skipped or overlooked. Refresher training for O&M staff will emphasize the proper application of torque-mark paint, so that any loosening of bolts could be visually detected.

If you require further information regarding this subject, please contact Miami-Dade Aviation Department Director José Abreu, P.E., at 305-876-7077.

c: Jack Osterholt, Deputy Mayor
José Abreu, P.E., Miami-Dade Aviation Director