At approximately 7:22 a.m., MTA NYCT bus #5496 was traveling on White Plains Road at the intersection with E 255th Street when the bus driver observed smoke coming from the left rear upper corner of the bus in the vicinity of the exhaust pipe. The bus driver moved to the curb, safely evacuated the 40 passengers and called for assistance. The fire department arrived and doused the rear section and engine compartment of the bus, insuring that any fire was extinguished. There were no reported injuries and the bus sustained moderate damage to the left rear upper section of the bus (in the vicinity of the exhaust pipe).

At approximately 8:16 p.m., MTA NYCT bus #1003 was traveling on Third Avenue and approaching the intersection with E 72nd Street when the bus driver was informed by a passing motorist that the rear of the bus was on fire. The bus driver moved to the curb, safely evacuated the 5 passengers and called for assistance. The fire department responded and extinguished the fire. There were no reported injuries and the bus sustained slight damage to the left rear upper corner of the bus in the vicinity of the exhaust pipe.

Both buses are New Flyer articulated transit type buses. Bus #5496 is a 2000 model housed and maintained at the Kingsbridge Depot and bus #1007 is a 1997 model housed and maintained at the 100th Street Depot, both with a seating capacity of 62 passengers. A review of the maintenance records for both buses showed that Preventive Maintenance Inspections are performed at regular 3,000 (+/- 500 miles) mile intervals with the most recent for bus #5496 having been completed on July 20, 2007 with the bus having traveled 1,455 miles at the time of the fire and the most recent
having been completed on bus #1007 on July 3, 2007 with the bus having traveled 3,217 miles at the time of the fire. There were no safety or recurring defects noted in the 45 days prior to the accident. The records did show that both buses had various work/repairs within the compartment housing the Diesel Particulate Filter (DPF), located within the upper left rear corner/side of the bus, and that the DPF for bus #5496 had been replaced on June 11, 2006 and the DPF for bus #1007 had been replaced on September 22, 2006. Physical post fire inspections of the buses by the combined staffs of the MTA NYCT and Public Transportation Safety Board (PTSB) found that both fires had been caused by a short to ground due to the wiring harness of the left rear upper marker light making contact with the DPF and catching fire. The damage to both buses was confined to the left rear roof cap, marker light harness and light fixture. Due to the damage sustained by both buses, decelerometer tests were not performed on the braking systems of either bus.

The driver of bus # 5496 and the driver of bus #1003 were hired by the MTA NYCT on November 15, 1982 and August 8, 2000 respectively. Both drivers successfully completed the New Bus Operator Training Program. A review of both drivers Department of Motor Vehicles records for the past three years showed no violations or convictions. The NYS Vehicle & Traffic Law, Article 19-A records for both drivers were reviewed and found to be complete, in-order and up-to-date. A review of the driver’s NYCT driving record for bus #5496 for the past three years showed three non-preventable accidents (11/28/05, 10/23/06, 03/08/07) and the review of the driver’s NYCT driving record for bus #1003 for the past three years showed one preventable (02/23/06, 10 day suspension) and two non preventable (02/19/07 & 03/27/07) accidents. Due to the nature of the incidents, no post incident drug and alcohol tests were performed on either driver.

In interviews the statements of both bus drivers were basically the same. Both indicated that there had been no problems with their buses until they were informed by, in one case, a passing motorist and, in the other, of observing smoke and/or flames coming from the left rear upper portion of their buses in the vicinity of the exhaust pipe. Both drivers further indicated once they became aware of the problem they curbed their buses, safely evacuated their passengers and called for assistance.

The fires in the two buses in this combined case are related by identical causes to earlier PTSB criteria fires that occurred in buses of this type on 10/06/04 (PTSB Case #8221) and 12/23/04 (PTSB Case #8337). As a result of these past fires the MTA NYCT issued a maintenance directive in November 2005 to reduce re-occurrences. The steps in the directive included placing a fire resistant loom material around the marker light wiring harness, placing a lower amperage breaker in the marker light circuit and ensuring that the marker light wiring harness was secured away from the DPF. In the post fire inspection of bus #5699 it was found that the circuit breaker had not been replaced and the looming material had not been placed on the wiring harness, as per the maintenance directive. When other buses at this depot of this same type were examined by the MTA NYCT and PTSB staffs, it was found that none of the buses examined were in compliance with the maintenance directive. It was further learned that the maintenance directive had not been completed at this depot pending a separate depot wide overhaul initiative on schedule for all buses within 90 days of the directive. All retro work to the cowling was to be completed that time. The overhaul was deferred
prior to its initiation and the directive was not separately instituted. As a result of the two fires referenced in this case the MTA NYCT Department of Buses (DOB) issued a new Maintenance Directive on November 7, 2007 to immediately inspect the entire fleet of buses of this type and insure that the lower amperage breaker was in place and correct those buses found to be out of compliance. In addition, the MTA NYCT DOB redesigned the cowling containing the DPF by moving the marker light approximately six inches to the right, plugging the resulting hole in the cowling with a reflector and adding a second reflector on the upper rear left side of the bus. This removed the marker light wiring harness from the inside of the cowling and away from any exposure to the high heat of the DPF. In addition, additional ventilation holes were added to provide more air circulation around the compartment containing the DPF and the cowling was redesigned with an improved method of securing of the insulation. On December 10, 2007 a Maintenance Directive was issued by the MTA NYCT DOB regarding the retrofit of the buses with redesigned cowlings. At the time of this report the circuit breaker replacement has been completed, Phase 1 (moving the marker light) is near completion (93%, 585 of 628 buses), and Phase 2 (ventilation openings in the cowl) is progressing as time and materials allow and/or when the bus is scheduled for its regular scheduled upgrade/refit (81%. 507 of 628 buses).

As a result of these fires, the PTSB staff has developed a procedure to monitor, on a monthly basis, the status of Maintenance Directives issued by the MTA NYCT DOB to insure that the issues in the Directives are completed in a timely manner.

The Public Transportation Safety Board staff finds that the probable causes of these fires was the short to ground of the left rear upper marker light wiring harness to the DPF which caused the surrounding area to catch fire. Contributing to the fires was the failure of the MTA NYCT DOB to comply with the originally issued Maintenance Directive to reduce fires in the area of the cowling containing the DPF.

Based on the action taken by the MTA New York City Transit regarding this accident, the Public Transportation Safety Board staff makes no recommendation in this case.

INVESTIGATOR: Harry W. Gerham

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CHIEF, ACCIDENT INVESTIGATION SECTION    DATE

_____________________________    _________________________
DIRECTOR, PCSB, NYSDOT    DATE