Final Report of September 5, 2005 Accident involving at the Baltimore Hippodrome

RE: v

In the Circuit Court of Maryland for Baltimore City
Case Number:

Subsequent to submitting the report of August 31, 2009, I received from the office of additional information regarding this case, including the following deposition transcripts:

- , dated June 2, 2009
- , III, dated June 2, 2009
- dated May 11, 2009.

Additionally received:

- Deposition transcript of dated July 30, 2009, along with exhibits number 19-38 from defendant,
- Deposition of dated November 5, 2009.
- Additional materials from defendant's first supplement answer to plaintiff's interrogatories dated April 28, 2009.
- Defendant supplemental document production, including advanced truck schematic truck schedule and non-advanced truck schematics.
- Plaintiff's materials:
  - Visual Expert report of dated November 4, 2009,
  - Theater Safety programs Report by , dated November 3, 2009
  - Equipment Set Cart Examination, Consulting Engineers and Scientists, Inc. by P.E. dated November 18, 2009.

This is substantially more information than previously reviewed. Please refer to my initial report provided to your office on August 31, 2009. This especially pertains to the planning and execution of the load out for the Hippodrome facility.

In review of the aforementioned materials, it comes to the forefront, that this was a preventable occurrence. My opinion as an industry professional is that the moving of hazardous materials, while routine, needs to be undertaken with appropriate planning, precautions and resources. Hazardous materials are an everyday occurrence in many environments, including the one involved in the September 5, 2005 accident. Awareness of the hazardous nature of the item to be moved, observance of all warnings, proper techniques, and appropriate guidance and supervision needs to occur to prevent the hazard from materializing. Additionally, the planning of the movement of this traveling show appears to be inconsistent with safe practices.

My final report based on the above materials will concentrate on the following items:

- The hazardous item itself
- Techniques to minimize the hazard
- Supervision, training and experience of personnel involved in the movement of the item
- Execution of the desired movement.

Hazardous Item

The article in question, the deck cart, is a common size configuration used in traveling shows and exhibits. The footprint configuration was chosen to maximize most efficient use of truck space where the items are stood on end in those cases where they cannot realistically be stacked or double-decked in the truck. This necessitates the use of vertical items for loading and transporting.

As previously indicated, this is commonplace, and in this particular instance there was an article over 1,100 pounds in weight which could not have practically been transported horizontally or double-decked within a tractor-trailer transport vehicle due to its weight and the venues involved.

It does not appear that the design of the item was defective as these articles can be safely moved and transported if appropriate precautions are taken and posted instructions followed. The item was clearly labeled as hazardous, and once so identified, needs to be handled with appropriate personnel and resources to prevent the item from tripping, which was its inherent hazard.

Techniques to Minimize the Hazard

The deck cart was designed to roll on a smooth, regular surface. From the above referenced materials, it was indicated the dolly wheels were not suitable for navigating significant changes in elevation such as pot holes, sidewalks, curbs and other irregularities which might be incurred on such a surface as a city street or parking lot. In this case, the Baltimore Hippodrome, which had two indoor loading bays, one of which is equipped with a scissor lift, could have more easily and safely accommodated the deck carts without exposing them to the hazard of moving them over an irregular surface. While the video does not clearly show what the surface was underneath the dolly when it tipped, subsequent pictures taken of the Baltimore Street location show a street pavement with many irregularities and a noticeable pot hole.

The planning of the load out for this traveling show would have been better served, and a hazard prevented, by using the existing loading bays which would have accommodated two tractor-trailers at one time. The touring company indicated the methodology of positioning multiple trucks in the street somehow served the purposes of loading more than 20 trucks. I question this efficiency, however, since all items had to exit the two loading bay doors before being put in the street. Since organizers had exact schematics of which items were needed on each vehicle. The "staging" of items to load in the street does not seem efficient, safe or necessary.

Nevertheless - Personnel in charge of planning the load out opted to use the Baltimore Street location, and parked the tractor-trailers outside the venue wherein all items, including the deck carts, had to be rolled over the sidewalk, the curb and on to the asphalt pavement of the street. In my opinion, this was an unnecessary exposure to an additional hazard which could have been avoided by the use of the loading bays present at the Hippodrome. Accordingly, it is my opinion the use of the deck cart in this environment contributed substantially to its eventual tipping over which occurred.

Supervision, Training and Experience of Personnel

In his deposition, Mr.   indicated he had extensive experience in the movement of these shows. I would conclude from his experience he had previously encountered items constructed with a size, shape and footprint of the deck cart on prior occasions.

It is unclear from deposition of   dated June 2, 2009, what directions were to be provided to the plaintiff and other crew members before and during   exhibit. I understand Mr.   was the on-site foreman primarily responsible for the instruction and supervision of the local stagehands and crew members, also known as "pushers". I did not review a deposition from Mr.   , but is unclear exactly how much or what initial and subsequent instructions during the load out were eventually provided to Mr.   and crew.

Regarding on-site supervision: In the DVD videos and several still photos provided, it appears some deck carts were moved without the four-person crew stipulated on the warning sign. Even working with crews who had prior experience, since there were documented hazardous items to be moved, and it was incumbent upon the show organizers to assure proper supervision was provided throughout the load out. Pending additional information from Mr.   and/or Mr.   , I would conclude the supervision I was able to observe in the DVD videos and the transcripts provided was not sufficient to assure these hazardous items were properly handled.

Execution/Movement of Deck Cart

In the video it appears Mr. and one other individual attempted to move the deck cart, pushing from the side, which should have been counter in both experience and instruction, and which would have contributed to the tipping of the article.

An additional element was the conspicuous posted warning signs on the carts. Given the experience level of the plaintiff, it was incumbent upon him to read and follow these instructions, especially when embarking on the movement of a new show for which there were items to be moved.

Also - By failing to follow the instructions, the ability to see the area for safe movement was compromised. With only two people pushing the deck cart and the item being over seven feet tall, vision was obscured. It appears the deck cart made contact with the rake cart immediately prior to the deck cart tipping over. Any contact made with an object in the path of the deck cart would also affect its safe handling.

The failure to follow posted instructions, observe the four-person handling requirement, observe assured safe clearance and space management on all sides of the item, and the improper movement of the deck cart also contributed to the tipping of the item and subsequent accident.

Conclusion

After review of the above referenced items, it is my opinion this was a preventable accident. The hazardous nature of the item was known and appropriate warning provided. The exhibit organizers chose to expose the hazardous item to potential danger by failing to use the available facilities provided which would have more easily enabled the safe movement of the deck carts.

Additionally, it does not appear effective supervision or planning was used during the load out of show. This is evidenced by failure of supervisors to instruct crews of less than required size to move the items in question.

An additional contributing factor was the techniques used by the plaintiff to move the deck cart as well as his failure to follow the clearly posted instructions and warnings on the item in question.

This my conclusion based on the materials supplied to date. Additional materials may change these opinions.

Respectfully submitted,

December 20, 2009