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April 15, 2014

Mr. John Moore
Cubic Designs
5487 S. Westridge Drive
New Berlin, WI 53151

Re: Forklift Barrier Test Report – Test #1
Cubic Designs Fabrication Facility
Waupaca, Wisconsin
PSI Project Number 0051845

On April 10, 2014, a representative of PSI was present at the Cubic Designs' Fabrication facility in Waupaca, Wisconsin to observe and document the performance testing of the Cubic Design Forklift Barrier System.

Testing was performed to verify that the barrier system would stop a forklift weighing at least 10,000 lbs traveling at a speed of 4 miles per hour (mph). The barrier system is shown in Photograph #1 and was comprised of following:

- Rail Material: 14 gage formed high strength steel, 50 ksi yield
- Rail Hanger: 11 gage high strength steel, 50 ksi yield
- Post: HSS5x5x7 gage, ASTM A500 Grade B, 46 ksi yield
- Base Plate: 10"x10"x3/8" plate, 50 ksi yield
- Anchors: (4)-1/2" dia. x 5" Powers Power Stud +SD1

The type of forklift used for the testing was a CAT TC60D, weighing 10,000 lbs. To document the speed of the forklift, time trials were performed over a test distance of 52.75 feet. The time was recorded for how long it took the forklift to pass through the 52.75 foot interval at a constant speed. In order to maintain a constant speed, a governor was installed behind the accelerator pedal of the forklift. The calculated time to travel the test distance of 52.75 feet at 4 mph was 9 seconds. Time trials were performed to document that the governor produced a consistent speed of 4 mph. For the test, the time interval for the travel distance was 8.96 seconds (4.01 mph).

Prior to running the test, the forklift was aligned vertically with the barrier system so that the front of the forklift came in contact with both horizontal rail members of the barrier system. The forklift was also aligned horizontally with the barrier system so that the point of contact was centered on the horizontal rail members of the barrier system.

Upon striking the barrier system, the forklift caused a deflection of 6.0 inches to the top rail and 7.0 inches to the bottom rail. No visible failures were observed to the barrier system

and the forklift was stopped, which met the testing criteria listed above. Photographs #4, #5 and #6 show the deflection of the barrier system after the test.

PSI appreciates the opportunity to provide our services for this project. Should you have any questions, please contact our office.

Respectfully Submitted,
Professional Service Industries, Inc.

Matthew J. Decker, E.I.T.
Manager, Construction Services

David M. Barndt, P.E.
Senior Vice President

Attachments: Photographs

Photo 1: Cubic Design Barrier System – Prior to Testing

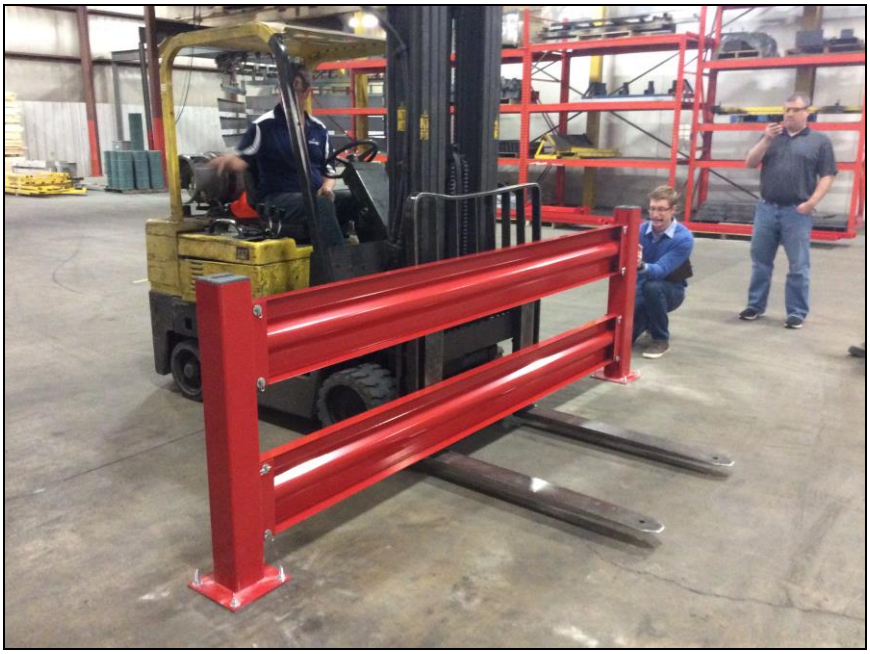

Photo 2: Alignment of the forklift with the system prior to testing.

Photo 3: Deflection in the system after testing.

Photo 4: Left side damage to hangers.

Photo 5: Right side damage to hangers.

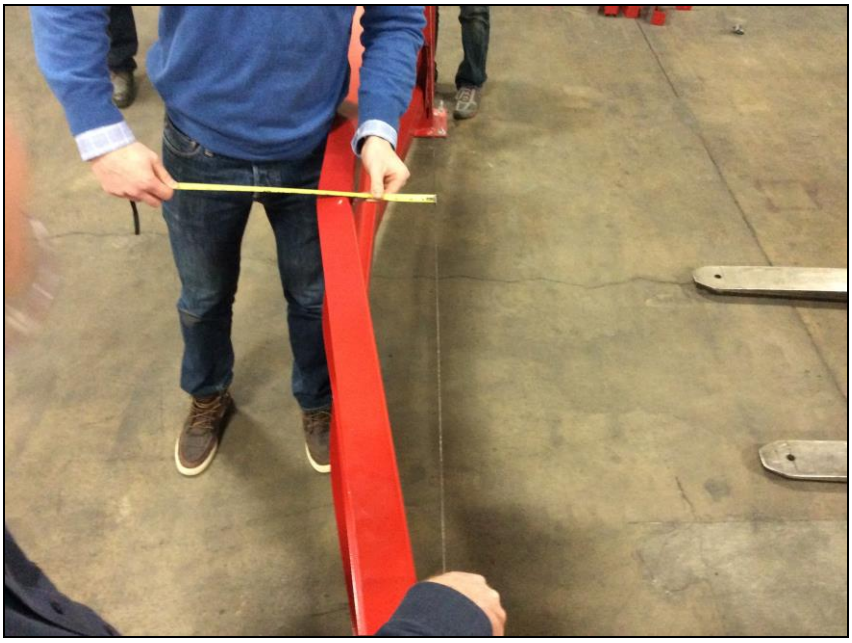

Photo 6: Measurement of deflection at most severe point.