DASCON Engineering, LLC

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Date: March 30, 2012
To: Florida Department of Transportation
Attn: Mr. Mo Hassan
Subject: Traffic-Driven Wind Generator (TDWG);
Assessment of Potential Drag on Passing Trucks

As requested by Ted Weigel of WindAge LLC, I have reviewed the proposed location of an experimental TDWG to determine whether or not a turbine operating in that location would be expected to cause significant drag on passing trucks.

According to the information Ted provided, the TDWG would be mounted on the side of a highway bridge in the direction of approaching traffic, with the bottom of its helical VAWT rotor no lower than the bottom of the bridge support girders. I agree that this is the preferred location for the TDWG.

As I suggested in my earlier reports to WindAge, a turbine rotor in this proposed position would receive the bulk of its power from the updraft over the truck cab. Because the updraft airflow driving the turbine is near-vertical, any drag from the operating rotor would also be in the vertical direction. To negatively affect the performance of a passing truck, any drag force would have to be horizontal in order to oppose its forward motion, which is not the case with the proposed TDWG location.

Because the drag force of the TDWG is vertical or near-vertical, it is my opinion that any horizontal drag force on a passing truck would be absent or insignificant in its affect on truck performance.

Best regards

David A. Spera

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Cc: T. Weigel and K. Stevens