

# QUARTERLY PROGRESS REPORT

January 1, 2011 to March 31, 2011

Regarding funding, we are still struggling with getting funding transferred from Kentucky so that we can reconcile the account in an orderly fashion and determine where we stand. Our laboratory records indicate there is very little funding remaining. These funds are urgently needed to cover research costs that have already been incurred by FHWA. As a result, work activities under the PFS have been placed on hold until these budget issues can be resolved. Since these difficulties have persisted for quite some time and in the interest of moving on, we plan to defer the "Kentucky" issue and proceed with reconciliation of the account shortly.

On a related matter, arrangements are being finalized to perform two more phases of wind tunnel testing on a full scale cable model at the National Research Council (NRC) of Canada in Ottawa, Ontario. Recall that under the HNTB contract at the beginning of this study, two phases of wind tunnel testing were also performed at NRC. In the first phase, a large rigid section model with a smooth surface was mounted on springs at both ends and tested in non-turbulent flow in the 3m x 6m wind tunnel. Various inclination angles and spring orientations were evaluated over a broad range of wind speeds and Reynold's numbers. In a second phase of testing, a smaller model was outfitted with circumferential pressure rings and longitudinal lines of pressure taps and was installed between upper and lower turntables in a smaller wind tunnel at NRC. This testing was aimed at performing a detailed study of surface pressures on the cable in different orientations. In the Summer of 2008, a third phase of wind tunnel testing was again performed at NRC in the large 3m x 6m wind tunnel. For these tests, the large section model originally tested was modified to include pressure rings and lines similar to the previous phase. Tests were performed in smooth flow at a broad range of inclination angles, spring orientations, and wind speeds. The model from this PFS was made available; however, no funding from the PFS was utilized. The testing was organized and sponsored by NRC, the University of Bristol, and the University of Stavanger. A portion of this testing was observed by Harold R. Bosch of the FHWA.

The two new phases mentioned above, Phases 4 and 5, that are planned for mid to late Spring 2011, will be sponsored entirely by FHWA. No funding from the PFS will be utilized. For these tests, the large section model will again be modified to enable rotation of the HDPE pipe on its axis without rotation of the spring suspension and a double helical fillet representative of modern cables will be added.