Q1 Statements #9 and #10 on the Blind Prediction Rules PDF stating that the recorded data is filtered with a band-pass filter, but #10 states the accelerations measured on the table are provided to the contestants without filtering. Does this require contestants to filter the acceleration time histories themselves? How does statement #9 (the data being filtered with a band-pass filter) affect the contestants if statement #10 is correct? If you are requiring contestants to first filter the data, wouldn't this create inconsistency right from the start?

A1 We have updated the provided accelerations with those filtered using a high-order (5000) FIR digital filter with a 0.25 – 25 Hz bandwidth.

Q2 Is the test uni-directional and the test specimen has translational restraint in the y-direction?

A2 The test is bi-directional: accelerations were applied in one horizontal (x) and the vertical (z) directions. There is translational restraint in the other horizontal, i.e. y-direction, and also in the yaw-direction (i.e. against torsion or rotation in the y-z plane). The x-direction is the one parallel to the plane of the bridge bent.

Q3 Directions of accelerations are provided in the excel file. Can you confirm how many directions of acceleration input were applied? i.e. x-direction only (unidirectional), and the measured accelerations in y and z resulted from the table-specimen interaction?

A3 Two components of accelerations (x and z) were applied. The x- component excited the shaking table in the longitudinal direction whereas the z-component excited the shaking table vertically. No excitation was applied in the y-direction, and hence in theory, the y-horizontal acceleration should have been zero, but we are providing whatever acceleration was recorded. This y-acceleration may have limited effect on the response of the specimen since the bent cap was allowed to translate only in the x and z directions and was free to pitch (i.e. rotation in x-z plane). All three motions are provided for completeness.

Q4 As the tendon forces increase beyond the initial post-tensioning force during testing, is there anything about the anchorage system (at both ends) that would result in any loses (anchorage take-up) that the contestants would not be aware of?

A4 We believe the anchorage system did not impact the response of the unit.

Q5 The diameter of the PT coupler nut is shown as 2.75", but the PVC tube has an inside diameter of 2". This suggests that the PT bar coupler is not located within the PVC tube, and the PT bar is not entirely de-bonded from the bottom anchor plate to the top anchor plate, correct? Can you confirm that the top of the coupler is located at the top of the foundation? Are you able to confirm whether the initial post-tensioning force as measured in the load cell at the top of the pier, is equal to the force in the PT bar beneath the PT coupler within the foundation?

A5 This is correct, the PT bar coupler is not located within the PVC tube. We cannot comment on the level of de-bonding over the coupler height.

The top of the coupler is located at the top of the foundation, within construction tolerances.

We cannot confirm that the initial post-tensioning force as measured by the load cell at the top of the pier is the same as the force beneath the coupler, but engineering judgment would suggest that there should be very small losses along the length of the bar from end to end. This is because (a) during construction, we made sure to wrap plenty of tape over the coupler-PVC connections to minimize any inflow of concrete, (b) the outside of the coupler is not deformed minimizing bonding over the coupler height, and (c) the PVC outside diameter is 2.375"(60.3 mm), so that only a small portion of the coupler extends outside the PVC ducts.

Q6 Are the initial post-tensioning forces adjusted after any test, or should the contestants assume that the initial forces of 96K and 94.6K are representative of the initial PT forces immediately before the first acceleration input is applied, and no further adjustments were made, i.e. the anchor nuts were not adjusted during the tests?

A6 PT forces as directly measured by the load cell are indicated as follows:

- **North Column: 97.7 kips (435 kN) immediately after release, 96.0 kips (427 kN) at the beginning of testing.**
- **South Column: 95.1 kips (423 kN) immediately after release, 94.6 kips (421 kN) at the beginning of testing.**
- **No adjustments were made after the initial PT forces were applied.**

Q7 Do the weld beads at the column ends extend to both the inside and outside face of the steel pipe? i.e. the pipe is effectively "roughened" on the inside and outside?

A7 Yes, the weld beads at the column ends are on both the inside and outside face of the steel pipe. Note that the beads are only over a height of 26" (660 mm) at each end, i.e. the central 131" (3327 mm) length of the column has no weld beads.

To help all participants: The connection between the columns and the foundation/bent cap via the corrugated drainage pipe, grout and pipe with weld beads had no impact on the response of the unit. Therefore, such connection could be assumed to be monolithic.

Q8 Besides the duct-tape, there was no other "smoothing" of the reinforcing bar over the 6" de-bonded length?

A8 Correct, only the duct tape was used for smoothing over the 6" (152 mm) de-bonded length. Three layers of the duct tape were used for each de-bonded length.

Q9 Please confirm the overturning moment requirement at the base on the piers, z=26" (Item #3 in the spreadsheet submittal). Is it a) the moment within one pier at the base (assuming the moment is the same within each pier given there is only one column), b) the sum of

both pier moments at the base, or c) the system moment at the base, i.e. sum of pier moments at the base plus axial force couple?

A9 Since we did not measure the bending moment, axial and shear forces in the individual columns directly, we calculated the overturning moment using inertia forces from the array of accelerometers and known masses (translational and rotary).

Q10 I have a question about earthquake loading. There is a excel file included 9 applied ground motions (GM1, GM2, GM3, GM4, GM5, GM6, GM7, GM8, and GM9) and each GM has 3 components. Which of them should be applied? Should I apply x, y and z components simultaneously?

A10 Please refer to Q2 and Q3 and the corresponding answers. Our suggestion is that the y-component of the acceleration recorded on the table may be left out of the analysis. The x and z components should be applied simultaneously and the input motions (GM1 to GM9) should be applied to the analytical model in the order that is specified in the GM_Sequence tab of the Ground Motion Data file.

Q11 I have a question about the grout fill mass indicated on Table 1 on the construction drawing. Is the total weight of grout? (considering at top and bottom of each column) or maybe is the total grout per column?

A11 The grout fill mass is for all four sockets combined.

Q12 We are wondering whether you have information on the tensile strength of the column concrete.

A12 All material information is as provided in the Materials zip file and any other information does not exist.