Webinar Questions and Answers

1. **Q: What's the difference of assigning diaphragms by shell or as joints?**
   A: Assigning diaphragms to shell objects is preferable as it will automatically constrain internally created joints.

2. **Q: Can you add a combination for seismic loading when two different directions and 3 eccentricities are defined?**
   A: Yes, in this situation the user can define seismic load patterns with 2 different directions and 3 eccentricities. Then, under Define>Load combinations, the user can define any combination of load patterns and scale factors. When viewing output, the defined combination with include the two different directions and eccentricities by selecting the associated step.

3. **Q: Do step numbers always correspond to the same seismic load pattern?**
   A: You can define multiple seismic load patterns to include X and Y +/- eccentricities and different coefficients and factors. When viewing the deflected shape, simply select the seismic load pattern of interest and the step numbers will correspond to the selected seismic load pattern.

4. **Q: Can you explain the difference between "Include Lateral Mass" and "Include Vertical Mass" in the mass source definition?**
   A: If the "Include Lateral Mass" option is selected, the assigned translational mass in the global X and Y axes directions and assigned rotational mass moments of inertia about the global Z-axis are considered. If the "Include Vertical Mass" option is selected assigned translational mass in the global Z-axis direction and assigned rotational mass moments of inertia about the global X and y axis directions are considered in the analysis. Leave this box unchecked if you do not want to consider dynamics in the analysis.

5. **Q: When using the "program calculated" option when determining the time period, do we need to conduct a modal analysis?**
   A: Yes, you must conduct a modal analysis when selecting the "program calculated" option when determining the time period. To make sure modal analysis is activated, go to Define>Modal cases and ensure a modal case has been defined.

6. **Q: How do you handle sloped roofs when it comes to seismic and eccentricity?**
   A: Auto lateral seismic loads, unlike auto lateral wind loads, can be applied to a structure without a diaphragm being assigned. Auto seismic lateral loads will be applied to all joints that have mass, even on sloped roofs. Currently, eccentricity can only be applied to floors that have diaphragms assigned.

7. **Q: How do we consider +/-1.0EX+ -.3EY combination if using a single load pattern for the auto seismic load?**

A: Yes, in this situation the user must define separate load patterns for each instance. For example, a separate load pattern for loads applied in the X direction, Y direction, X+Ecc, X-Ecc, Y+Ecc and Y-Ecc etc. Then, under Define>Load combinations, the user can define any combination of load patterns and scale factors.

8. **Q: How does ETABS assign the reduction factor?**
   A: The user must define the appropriate Response Modification factor in the Seismic load pattern definition form. It is up to the user to select the correct Response Modification factor based upon building structural system they are analyzing or designing.

9. **Q: Can I use two load patterns in the same direction for example in the case of a structure that has different response modification factors?**
   A: Yes, in this case the user must define separate load patterns with different Response Modification factors.

10. **Q: Please explain about which story to select as the base when you have a structure with several below-grade levels?**
    A: The bottom story would typically be the base level. However, for example, if a building has several below-grade levels, it is best to specify the bottom story to be defined at the base level of the above ground structure.

11. **Q: What is the difference between Seismic and Seismic (drift) load pattern types?**
    A: A Seismic (drift) type load pattern is the same as a Seismic load pattern except for the fact that Seismic(drift) does not enforce certain upper limits on the period resulting in a lower base shear and deflections when checking drift limits.