## Ballot: 129-07-650-608 Design Loads for Tank Roofs

**Start Date:** 7/19/07  
**Closing Date:** 8/30/07

### Proposal:

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### Suggested Changes

<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Company</th>
<th>Specification Section</th>
<th>Type</th>
<th>Comment</th>
<th>Suggested Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>157328</td>
<td>Doug Bayles</td>
<td>Inserv Integrated Service Company LLC</td>
<td>Entire Agenda Item</td>
<td>Editorial</td>
<td>Change any reference to meet pertinent standards of API 650 11th edition</td>
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<tr>
<td>134782</td>
<td>Steve Caruthers</td>
<td>Tank Consultants, Inc.</td>
<td>Technical</td>
<td></td>
<td>The interpretation of ASCE 7 resulting in 30 psf uplift on cone roofs which are almost flat should be verified by another source. This results many times in higher loads from uplift from wind going over an almost flat roof than from direct horizontal loads on the walls of a tank.</td>
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<tr>
<td>All</td>
<td>Editorial</td>
<td>Many, but not all, of the paragraph numbers and referenced paragraph numbers in this ballot need to be updated to match the API-650 11th Edition. Please verify correct paragraph numbers and references before sending to be published. For example, section 5.2.1 LOADS are numbered &quot;a&quot; - &quot;j&quot;, but the topics assigned to those letters is in a different order than the old 3.2.1 LOADS section from the 10th Edition.</td>
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<td>3.2.1 (i)</td>
<td>Technical</td>
<td>Per this ballot: this old paragraph number from 10th Edition 4th Addenda, fails to acknowledge the new Appendix &quot;V&quot;. This will probably be taken care of editorially if the ballot passes, since 5.2.1 (b) in the 11th Edition already acknowledges Appendix V for vacuum design greater than 1&quot;WC.</td>
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<tr>
<td>General</td>
<td>Technical</td>
<td>Use new paragraph numbering from Edition 11.</td>
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<td>5.10.6.1</td>
<td>Technical</td>
<td>For SCAST reference, the impact on an 80’ dia. dome roof tank with no snow load (LL = 15 psf). Pre-addendum 4 = 0.385”, Addendum 4 = 0.365”, New Proposal = 0.279” This creates some concern for umbrella roofs which are not a true dome shape. Consider having two equations for domes and umbrellas; one for balanced loading (existing formula) and one for unbalanced (ballot formula) with resulting thickness = 0.320”</td>
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<td>5.10.5.1</td>
<td>Technical</td>
<td>A similar modification as proposed in 5.10.6.1 should be made for design thickness of self supporting cone roofs in 5.10.5.1.</td>
<td>“Method of combining horizontal and vertical loads shall be by agreement between purchaser and manufacturer.” Or alternatively state “loads need not be applied simultaneously”</td>
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<td>G.4.2.1</td>
<td>Technical</td>
<td>The standard should not state horizontal and vertical (seismic) forces shall not be applied simultaneously. Combining the loads is more conservative and should not be prohibited.</td>
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<td>92212 George Morovich</td>
<td>TEMCOR</td>
<td>Suggest just referring to ASCE 7 for LL (understand this is being done for the AWWA AST Standards to be in line with ASCE 7 and IBC 2002), but consider loads resulting from future maintenance.</td>
<td>(d) Minimum Roof Live Load (Lr): 1.0 kPa (20 lb/ft2) on the horizontal projected area of the roof. The minimum roof live load may alternatively be determined in accordance with ASCE 7. The minimum roof live load shall be reported to the purchaser. To establish a reduced minimum the Purchaser shall also take into account live load resulting from activity and materials applied during the course of future maintenance.</td>
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