

DRAFT resolutions for comments received during the first public review of BSR E1.21 - 201x

Referenced document: BSR E1.21 - 201x, *Entertainment Technology—Temporary Structures Used for Technical Production of Outdoor Entertainment Events* (Rig/2010-2025r8a)

Public review period: 22 February through 08 April 2019
(Earlier responses will be accepted. Later responses may not be considered as part of this review.)

Question: Do you agree that the recommendations of BSR E1.21 - 201x, *Entertainment Technology—Temporary Structures Used for Technical Production of Outdoor Entertainment Events* (Rig/2010-2025r8a) are adequate and reasonable enough to recommend its acceptance as an American National Standard?

Responses:

Name	Representing	Yes	Yes with comments	No with reasons
William B Gorlin (MEG)	McLaren Engineering Group		X	
Michael Wells (XSF)	Xtreme Structures and Fabrication			X

(Sorted by referenced clause)

#	Commenter	Clause	Comment	Proposed resolution
1	XSF	3.2.2	AHJ - Should be defined in section 2 or written out in full words.	Accept. The words are written out, along with the acronym “(AHJ)” in each instance
2	XSF	3.2.6	Regarding the statement that wind loads shall not be multiplied by a factor less than 1.0. As stated, no temporary structure could ever be used with the temporary load factor allowed by code, which does not follow the standard practice used across the industry. Is this statement in reference to something other than the temporary allowances in the wind codes? Is the statement applicable to LRFD, ASD, both? More definition should be provided on the intent of the statement as it potentially effects other portions of the document noted below. Reductions are clearly allowed in the Annex notes for A3.5.2.	Accept in principle. The section has been deleted and other wording has been clarified.

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3	XSF	3.3.2	"Load combinations shall be determined by referencing SEI/ASCE 7 or the applicable building code" is in direct conflict with Section 3.2.6 which, as written, overwrites factors determined by ASCE 7 that are less than 1.0.	Accept in principle. The wording has been clarified.
4	XSF	3.3.5	This section requires an engineer to calculate deflections, but does not give the engineer any direction on what to do with the results. Should the deflection be limited? If so, how much? L/120, or L/180, or L/220? In our experience, we see L/180 as the common allowable deflection in aluminum structures. Please provide more direction on the use of the deflection calculations.	Accept in principle. The wording has been clarified.
5	XSF	3.3.6	Rarely is the deflection of the structural components the reason for ponding. Lack of bracing or support elements under a vinyl canopy will cause ponding regardless of deflection. Suggest rewriting the sentence to something similar to "The design shall include structural and/or additional support elements properly placed to ensure that unwanted ponding or accumulation of rain water does not occur"	Accept in principle. The wording has been clarified.
6	XSF	3.4.4.2	Is this an unfactored design wind speed (i.e. 90mph) as required by 3.2.6? Or is the intent that this be the factored wind speed used in the design?	Accept in principle. The wording has been clarified.
7	XSF	3.4.4	Did not see any references to seismic calculations when applicable. Suggest adding 3.4.4.12 to include code required calculations for seismic activity.	Accept in principle. See section 3.5.1 and its associated annex note. The list in 3.4.4 has also been revised to include seismic evaluation.
8	XSF	3.4.6	Suggest adding cables or wires to the sentence "Where guy wires or other bracing systems are used..." It reads like guys (men) could be used for bracing. Suggest possibly adding a definition for guys or guy wires in Section 2 to clarify.	Accept in principle. The task group consulted a number of printed and online dictionary resources. All of them contained a definition for "guy" that is exactly consistent with its usage context in this section. However, to satisfy this comment all instances have been changed to "guy wires".

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9	XSF	Multiple sections	Sections 3.4.6, 3.5.2.2, 3.7.3, 3.9.1, 5.3.3, and in the Annex there are multiple use of the words "guys, guy/bracing, wire guys, guy wires, un-guyed, guying, lateral force resistance, bracing" without consistency. Suggest doing a document search on the word "guy" and cleaning up the various references to guys or lateral bracing. The word guy should only be used in direct reference to a guy wire. If the reference is to lateral bracing then guy may or may not be the method used to brace the tower. As an example, if the committee decides to use "guy wires" as the standard reference then change the document to be more consistent throughout and define guy wire as a "wire, cable or other method used to brace the tower or system" in Section 2. There just seems to be a considerable amount of inconsistency that should be addressed.	Accept in principle. See comment resolution 8.
10	XSF	3.5.2.4	grammatical error at the beginning of the sentence "Where a temporary structures will be..."	Accept.
11	XSF	3.5.2.5	Once again this ties back to 3.2.6. When reading both, the intent of the document is unclear.	Accept in principle. The section has been revised for clarity.
12	XSF	3.5.4.3 and 3.5.4.4	Section 3.5.4.3 and 3.5.4.4 appear to be somewhat redundant. The 2 sections could be combined to simply state "When applicable, the engineering documentation shall include snow and ice loading..." and leave it to be determined by a qualified person or engineer.	Accept. Note: the revision results in renumbering, so this is now addressed in 3.5.4.2..
13	XSF	3.5.4.5	I am not sure why we would not reference our own ANSI 1.39 for fall protection on truss in this section which includes loading requirements.	Accept in principle. The requirements have been revised for clarity.
14	XSF	3.7.3	guys are not the only way to brace a tower. Suggest changing the verbage to "...when determining the structural strength of an unbraced tower"	Accept.
15	XSF	3.8.3	This section basically says don't use adjacent bases unless you plan for it... which could be written more efficiently by saying "Interaction between adjacent foundations, supports or anchors shall be taken into consideration when applicable."	Accept, with alternate wording.

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16	XSF	3.9.4	This section is missing a great opportunity to introduce stakes/augers/anchors used in front of the ballast when possible to prevent ballast slippage or movement. With stakes in front of the ballasts, per engineering requirements, the ballast can be prevented from slipping or sliding movement and with friction out of the equation, the factor in 3.9.4.1 for slippage could be modified. The use of 1.0 for slippage would be ok if the ballasts are prevented from slipping. It also takes a lot of guesswork out of the equation for engineers when deducing soil type, coefficient of friction, etc. which can vary greatly on a single job site. The uplift calculation potentially becomes an overturning calculation for the ballast if it is prevented from slipping.	Accept in principle. An annex note has been added.
17	XSF	4.3.4	Suggest adding "Welder certifications shall be made available by the manufacturer upon request"	Reject. The baseline requirement for welder qualifications is established by section 4.3.3, and is addressed by AWS B2.1. Since the manufacturer already employs or contracts the welders, it is the manufacturer's responsibility to maintain welder certifications in accordance with their respective quality assurance program(s).
18	XSF	4.4.2	"Critical component interaction" is a highly vague statement. Could the committee please provide more definition or an annex note clarifying the intent.	Accept in principle. The wording has been revised to add clarity of intent.
19	XSF	5.1.1	AHJ - See above comment	Accept in principle. See comment resolution 1.
20	XSF	5.4.2	AHJ - See above - You could argue the same for OSHA, however I believe anyone using the standard will be familiar with OSHA but may not know offhand what AHJ stands for.	Accept in principle. See comment resolution 1.
21	XSF	6.2	This whole section can be removed and replaced with a reference to Section 6 of ANSI E1.2. There is a lot of overlapping in sections 4 and 5 as well with E1.2, even what looks like some cut/paste, which is fine until one of the standards changes sometime down the road. Would it be better to reference E1.2 where the verbage is the same rather than reprinting it in this standard?	Reject. ANSI E1.2 only pertains to Aluminum trusses, while this standard pertains to trusses fabricated using other materials. The requirements of Sections 4, 5 and 6 are written to cover the range of materials used in these systems.

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22	XSF	7	Section 7 is outside of the scope of the standard and should be removed. A reference could be provided to another standard that covers this, and the annex narrative could remain in place.	Reject. Section 7 covers topics explicitly included in the second and third paragraphs of Section 1, Scope and intent. At this time, no other standard addresses these topics.
23	MEG	7.4.3	Add asterisk to denote that there is an Appendix note.	Accept.
24	MEG	A3.2.5	Bullet points are small. Change these to match others	Accept in principle. All list items have been revised for consistency of formatting.
25	MEG	A3.7.1	Bullet points are blue. Change these to match others.	Accept in principle. All list items have been revised for consistency of formatting.
26	XSF	Annex 3.9.4	As stated above, narrative could be added to this annex section explaining the value of preventing slippage movement rather than trying to estimate it with engineering calculations. On any given job site there could potentially be ballasts located on exposed soil, soil with grass, caliche, concrete, paving, etc, which can create a number of different slip coefficients. Preventing movement, when at all possible, should be a consideration.	Accept. An annex note has been added.
27	MEG	A.7	Some bullet points are gray highlighted. Change these to match others.	Accept in principle. All list items have been revised for consistency of formatting.
28	MEG	A7.4.3	In the last sentence, replace the semi-colons with other punctuation as follows: Consult The Event Safety Guide: ANSI ES1.19-2018, Safety Requirements for Special Event Structures, and other applicable standard for additional information.	Reject. Rewrite the sentence as a list. Delete the ambiguous reference to “...other applicable standards...”.