

## The Equinox! Bābā Nowruz Brings Gifts

I'M WRITING THESE WORDS six hours after the March equinox; we are a quarter-day into spring in the Northern Hemisphere and into autumn in the Southern. In the North we can plan to get our summer clothes and beach furniture out of storage. In the South, they can make plans to pack those things away, but in Iran and all places where Persian culture holds sway, today they will celebrate Nowruz, the Iranian New Year. Homes will be graced with a beautiful Haft-Sin table, decorated with sprouted grain, fruit, sweet pudding, and other things to symbolize rebirth, love, endurance, beauty, health—the good things of spring. Silver-haired Bābā Nowruz and red-clothed Haji Firuz appear to celebrate the New Year; Bābā bring gifts to children and Haji plays the tambourine and dances. It's a time of visiting friends and relatives, and celebration.

ESTA's Technical Standards Program has just finished another round of meetings at the USITT Conference and Stage Expo. None of the meetings had baklava, samanu, or other treats, and no one danced, but progress was made on several projects. What follows is an update.

### Recently published

Two more standards are done for now (everything is subject to revision; the only constant is change), and you can download them for free, thanks to the sponsorship of ProSight Specialty Insurance, from the ESTA website at <http://tsp.esta.org/freestandards>. You can also buy them for \$40 each from

ANSI's Webstore at <http://webstore.ansi.org/> and IHS's store at <https://global.ihs.com/>.

**ANSI E1.24 – 2012 (R2017), *Entertainment Technology – Dimensional Requirements for Stage Pin Connectors***, is a configuration standard giving the mating requirements for male and female pin connectors, contact set-backs from the front face, and marking requirements. The electrical reliability and flammability requirements for pin connectors are outside the scope of this standard and would be covered by other standards, such as *UL 498, Attachment Plugs and Receptacles*. The download version is the standard bundled with the CAD files that were used to create the illustrations in the standard. The standard is the standard; the CAD files are simply included as a convenience for those creating connector shop drawings and are not the standard.

**ANSI E1.26 – 2006 (R2017), *Entertainment Technology – Recommended Testing Methods and Values for Shock Absorption of Floors Used in Live Performance Venues***, describes a method for measuring how stiff a performance floor is. It also suggests some ranges that have been found to be acceptable—neither too stiff nor too springy.

### Coming soon—maybe

The last "TSP News" reported a cliff-hanger, a working group letter ballot that was in recirculation for reconsideration because of two negative votes. The negative votes were only marginally persuasive. In the



PHOTO: MANDANA ASADI

Haft-Sin traditional table of Nowruz.

final count, out of a voting body of 68 members, 53 voted "Yes," one voted "Yes with comments" (and the comments were arguing against one of the No votes), four "No with reasons," three "Abstain with reasons," and seven voters did not get around to voting during the 42 days the ballot was open. The four No votes were distributed across four of the interest categories. This was not the unanimity we would like, but it exceeded the numerical requirement for showing consensus by more than 50%. Thus, the motion to accept **BSR E1.47, Entertainment Technology – Recommended Guidelines for Entertainment Rigging System Inspections**, as an American National Standard was forwarded to the Technical Standards Council, where it was approved at its USITT meeting. The motion next goes to ESTA's Executive Committee, and, if it passes there, it goes on to ANSI's Board of Standards Review.

BSR E1.47 was written to offer guidelines on what would be reasonable for an inspection of a rigging system in entertainment venues, such as theatres, video/film studios, amphitheatres, and arenas used for live performances or special

events. Routine inspection of rigging systems is required in many of our rigging standards, and would be a common-sense requirement for providing a safe working environment on stage. (You don't want to wait until the loft blocks rain parts to signal that something is wrong.) BSR E1.47 covers recommended inspector qualifications and responsibilities, scope and frequency of inspections, content of the rigging inspection report, and related information concerning the inspection process. It's for permanent systems used to fly scenery, lighting gear, and related equipment, not for performer flying systems.

Next up, maybe: **BSR E1.50, Entertainment Technology – Requirements for the Structural Support of Temporary LED, Video & Display Systems**, was offered twice for public review, most recently from November 25, 2016 through January 9, 2017. Two members of the public commented then, both responding “Yes with comments” and offering a total of six comments. Resolutions to the comments were drafted and accepted by the Rigging Working Group. They need to be sent back to the commenters for their acceptance, but most of the comments were addressed with some minor change to the draft standard—but not a substantive change, so a motion has been made to accept BSR E1.50 as an American National Standard. The motion will be decided by letter ballot, which will allow voters a chance to read the document, to think about it, to respond in writing, if they think there is a problem with the motion, and for other voters to think about any objections. It's a lengthy process, but it helps ensure that quick judgements are not made that will be regretted later—although we can always revise a standard sooner rather than later if we do make a mistake!

BSR E1.50 covers temporary installations of large format modular display systems, LED, video, and other self-illuminating display structures not otherwise addressed by existing standards. These things are heavy, and they present a large wind-load, so supporting them must be done with care.

The draft standard includes planning and site preparedness, assembly and erection, suspension and safety of components, special access requirements, use and dismantling of these systems. The scope includes LED, video, and self-illuminating display systems that in any way rely on rigid structural support frames, overhead suspensions, ground-supported stands or wall-mounted techniques during any use or installation, and applies to any of these systems in areas where failure of any support or anchorage could cause personal injury, loss of life, or property damage. So, if you don't care if it falls down because nothing will break and no one will be hurt, the draft standard doesn't apply—but how often is that the case?

## New project: Revision sooner rather than later

Regarding revision sooner rather than later: The Floors Working Group voted at its USITT meeting to start the process of revising **ANSI E1.46 – 2016, Standard for the Prevention of Falls from Theatrical Stages and Raised Performance Platforms**. Anyone with a material interest in the project is invited to participate, either by joining the working group as a voting member or by commenting in future public reviews. The working group is particularly interested in members who would be considered custom-market producers in the field or dealer/rental companies. The field is performance floors and stage platforms.

The revision has been triggered by OSHA's publication of a revised *29 CFR 1910 Subpart D, Walking-Working Surfaces*, in November 2016, nine months after *E1.46* was published. The *E1.46* standard includes that section of the *Code of Federal Regulations* in an informative annex, noting that the text quoted is as it read at the time of *E1.46*'s publication. Thus, the text is not wrong (it is what it said then), and it is not clear that the new OSHA regulations are substantively different than the old ones, but

what is published is not what the regulations are now. Some commenters during the standard's original development had urged us not to include the OSHA regulations, since they could be found on the OSHA website, but others who were more likely to actually use the standards wanted them included. When arguing with labor managers about fall protection plans, it is better to be able to say, “Here it all is, in this standard, and the OSHA regs are included,” rather than saying, “Here's the standard. Google the OSHA regs.”

This change to the OSHA regulations suggests we need to be better historians as well as standards developers. A *Notice of Proposed Rulemaking* was published in early 2010, two years before the *E1.46* project was started, so it was buried in back issues of the *Congressional Record*. Then nothing for six years while we did an initial project announcement and three public reviews before finally publishing the standard in early 2016.

Perhaps we can take heart in the hope (or fear) that further changes to the OSHA regulations now are unlikely for many years. On January 29, President Trump signed an executive order that would require agencies to revoke two regulations for every new rule they want to issue. Revoking regulations follows the same slow process as instituting new regulations. Enacting regulations now will require three times the work that was necessary a year ago. This revision to bring *E1.46* in line with *29 CFR 1910 Subpart D* probably will be the only one needed for many years.

## In public review now

As I write this, five ESTA standards are in public review. The reviews certainly will be over by the time you read my words, but this list will give you an idea of what we are working on. In alphanumeric order they are:

**BSR E1.1 – 2012 (R201x), Entertainment Technology – Construction and Use of Wire Rope Ladders**. The Rigging Working Group is considering *ANSI E1.1 – 2012* for

reaffirmation. The standard describes the construction and use of wire rope ladders in the entertainment industry in order to promote worker safety. Wire rope ladders are used where ladders with rigid rails are impractical to use or would pose a greater danger.

**BSR E1.8 – 2012 (R201x), Entertainment Technology – Loudspeaker Enclosures Intended for Overhead Suspension – Classification, Manufacture, and Structural Testing.** The Rigging Working

Group is considering *ANSI E1.8 – 2012* for reaffirmation. It is a standard for the structural integrity of loudspeaker enclosures that are suspended overhead. It is designed to ensure that flown speaker enclosures don't break and drop debris. It does not address requirements for sound reproduction.

**BSR E1.16 – 2002 (R201x), Entertainment Technology – Configuration Standard for Metal-Halide Ballast Power Cables.** The Electrical Power Working Group is considering *ANSI E1.16 – 2002 (R2012)* for reaffirmation. This standard describes a standard practice for grounding contact assignment for detachable power cables on 6kW, 12kW, and 18kW metal-halide lamp ballasts used in the motion picture and television industries on portable studio luminaires that use the MIL-C-5015 connector with #28-6 insert configuration on the ballast end of the power cable.

**BSR E1.32 – 2012 (R201x), Guide for the Inspection of Entertainment Industry Incandescent Lamp Luminaires.** The Electrical Power Working Group is considering *ANSI E1.32 – 2012* for reaffirmation. *E1.32* provides guidance in the inspection of stage and studio luminaires that use incandescent sources and that are used in the entertainment industry. The inspection is to evaluate their safety and any needed maintenance. The information contained in this document is intended to supplement the information contained in manufacturers' maintenance instructions.

**BSR E1.37-1 – 2012 (R201x), Additional Message Sets for ANSI E1.20 (RDM) – Part 1, Dimmer Message Sets.** The Control Protocols Working Group is considering *ANSI E1.37-1 – 2012, Additional Message Sets for ANSI E1.20 (RDM) – Part 1*, for reaffirmation. It provides additional RDM get/set parameter messages (PIDs). Most of the messages in this document are intended for use with entertainment lighting dimming systems. These additional messages allow access to configuration parameters commonly found in many theatrical dimming systems.

## But, wait! There's more

We have a couple of other standards or drafts that should be in public review soon. One is *ANSI E1.14, Entertainment Technology – Recommendations for Inclusions in Fog Equipment Manuals*, which is being considered for reaffirmation. The first edition was published 16 years ago and was reaffirmed twice before. It's a short standard, briefly listing what should be in a fog machine manual so the user can use the equipment safely. That really hasn't changed, so a simple reaffirmation is planned, but that still requires a public review, so you, Dear Reader, will have a chance to offer advice, if you choose.

The second is a revision of *ANSI E1.31, Entertainment Technology – Lightweight Streaming Protocol for Transport of DMX512 Using ACN*. The standard was revised just last year, but Wayne Howell, in writing his latest book, *Light Bytes: Inside Art-Net and sACN* (reviewed elsewhere in this issue of *Protocol*), found some errors, and there is a developing market need to support IPv6. Therefore, the current revision is to correct those errors and to add IPv6 support. The current changes are planned to be limited to those few items to avoid feature creep, which can cause standards projects to stretch into decades.

That's my list for now, but anyone can see what is in public review at any time by visiting ESTA's TSP website at <http://estalink.us/pr>. There is an RSS feed for public review documents on that page, so you don't have to wait for the next issue of *Protocol* to see what is in review! ■



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## Call for members

ESTA's TSP works to maintain a balance of interest on the working groups to help ensure that the standards developed are for the benefit of everyone: the people who make equipment, the people who sell or rent it, the people who specify it, and the people who use it. To do this, periodically the TSP issues a call for new members in particular interest categories. At this time, the following working groups are looking for voting members in the noted interest categories to help balance the interests in the working group.

- **Control Protocols:** Custom-market producers, general interest
- **Electrical Power:** Custom-market producers, designers
- **Event Safety:** Performing artists, event insurance companies, event equipment manufacturers
- **Floors:** Custom-market producers, dealer/rental companies
- **Fog and Smoke:** Custom-market and mass-market producers, dealer/rental companies, designers, general interest, not users
- **Followspot Position:** Custom-market producers, designers, dealer/rental companies
- **Photometrics:** Custom-market producers, dealer/rental companies, designers, users
- **Rigging:** Custom-market producers, designers
- **Stage Lifts:** Users, mass-market producers

Voters in the Technical Standards Program are required to attend meetings and to vote on letter ballots. Membership in ESTA or any other organization is not a requirement for participation in ESTA's Technical Standards Program, but there is a \$100 a year per person participation fee—a flat rate, regardless of voting status or the number of working groups a person joins. The fee is levied to help defray the costs of running the TSP, which has always run a deficit. More information about becoming involved in the Technical Standards Program and links to blank application forms are available at <http://estalink.us/WG>.