

## Summer's ending. Back to school



“FROM THE SCHOOL that brought you the 2015-16 school year: *Summer’s Ending*,” reads a postcard announcing the start of the 2016-17 school year at the Fort Worth Academy. A montage of administrators and teachers stands above the title, like super heroes on a movie poster. It’s an amusing way to remind parents and students that the school year is starting all over again. Second-graders become third-graders, third-graders become fourth-graders, and all move forward.

The cycle of academic progress also strikes me as the way ESTA’s Technical Standards Program works. Proposals become draft standards, draft standards are offered for public review, and they are revised and offered for public review again—or they don’t need revision and graduate to being American National Standards. Some race ahead, skipping from first grade to twelfth. Others get held back and have to repeat steps. Here is a report card on how ESTA’s standards are doing.

### Recent graduates

Three standards have been published since the last TSP News. Two are new, and one is a reaffirmation.

**ANSI E1.42 – 2016, *Entertainment Technology – Design, Installation, and Use of Orchestra Pit Lifts***, is the newest. It covers the design, construction, operation, inspection, testing, maintenance, alteration,

and repair of permanently installed orchestra pit lifts and their associated parts, rooms, spaces, enclosures, and hoistways, where located in a theatre or a similar place of public entertainment. The problem it’s been written to solve is the lack of a standard for pit lifts that can be applied fairly uniformly across North America, which sometimes caused problems with building code enforcement. Many theatre consultants can tell you stories about officials in municipalities where orchestra pit lifts are not explicitly covered in the local building code trying to apply passenger elevator requirements to them or giving short shrift to the lift’s inspection and signing off with shrug. Neither is good. This standard provides a basis for orchestra pit lift safety.

**ANSI E1.53 – 2016, *Entertainment Technology – Overhead Mounting of Luminaires, Lighting Accessories, and Other Portable Devices: Specification and Practice***, covers specifications for the primary and secondary mounting devices for portable stage and studio luminaires and accessories. It was written because some Actors’ Equity members complained of lighting equipment hitting the deck near them on stage. Some electricians say, “Oh, we always use safeties,” but some don’t, and unrated mounting hardware for luminaires is common. A standard will make it clear what should be done and what wasn’t done when it rains barndoors.

**ANSI E1.28 – 2011 (r2016), *Guidance on Planning Followspot Positions in Places of Public Assembly***, offers guidance on the planning of permanent followspot positions, including recommendations on the locations of the followspot positions within the venue, the power likely to be needed, the waste heat generated, the amount of space likely to be needed, and the fall protection and egress issues to be considered for the followspot operator’s safety. This is a reaffirmation of the existing standard, first published in 2011.

### Seniors

Three draft standards have been approved by their working groups, the Technical Standards Council, and the ESTA Executive Committee, and were submitted to ANSI just before Labor Day, which is the last day of school vacation for many. Only one received any public review comments, and the comments were suggestions that were clearly out of scope for the document, so ANSI approval should be soon.

**BSR E1.40, *Recommendations for the Planning of Theatrical Dust Effects***, is a revision of the 2011 standard. It gives a mixture of guidance “should” statements and mandatory “shall” statements to help people to avoid inappropriate dust effect materials, to select those that are least likely to cause health or safety problems, and to use them with care. The revision was done

primarily to add deflagration as a potential fire hazard with dust effects. Previously the standard had only mentioned dust explosions. Those make the news headlines when a grain silo or sugar factory blows up, but the more likely problem with dust for the entertainment industry is deflagration. At Holi celebrations or Bhangra music festivals, clouds of colored corn starch or other organic dusts in the air can become fast-moving balls of flame.

**BSR E1.41, Recommendations for the Measurement of Entertainment Luminaires Utilizing Solid State Light Sources**, is a revision of the existing standard from 2012. The revision adds the Fidelity Index ( $R_f$ ) rating, as defined in *IES TM-30-15, IES Method for Evaluating Light Source Color Rendition*, for reporting the production of white light of a reported CCT. The existing *ANSI E1.41* standard requires reporting the CQS score, which is adequate, but CQS is not widely used in the market, making specifying it pointless. *TM-30-15* seems to have more support, and will be useful.

**BSR E1.55, Standard for Theatrical Makeup Mirror Lighting**, is a revision of the 2015 standard. The revision is to add the Fidelity Index ( $R_f$ ) rating per *IES TM-30-15, IES Method for Evaluating Light Source Color Rendition*, for the same reasons that it's being added to E1.41. CRI will probably be an adequate measure for most broad-band makeup mirror sources and will be listed on general purpose lamp specifications for a long time, but it would be better to move away from that flawed metric. The draft standard received comments from only one person, and they were about the safety of makeup mirror lighting systems as electrical appliances and the strength of shelves if they are part of the appliance. They were outside the scope of the standard, which is about the illumination provided by the lighting system.

## Juniors

Four draft standards are in the final stages of voting for approval by their working groups

and the Technical Standards Council. They should be moving forward to ANSI soon. In alphanumeric designation order they are:

**BSR E1.4-1, Entertainment Technology—Manual Counterweight Rigging Systems**, has passed the Rigging Working Group's vote for acceptance and now moves on to the TSC. The old *ANSI E1.4* standard has been broken into three related parts. This Part 1 is a revision of the old standard. The two other parts are for dead-hung battens and manually powered winch systems. (As I write this, BSR E1.4-3, Entertainment Technology—Manually Operated Hoist Rigging Systems, is in public review through September 26. Three weeks into the review period, no one has commented yet.)

**BSR E1.15, Entertainment Technology—Recommended Practices and Guidelines for the Assembly and Use of Theatrical Boom & Base Assemblies**, has been approved by the Rigging Working Group and the TSC. It now moves to the ESTA

Executive Committee. It is a reaffirmation of the standard first published in 2006. The standard sets minimum specifications for the assembly and use of variable and fixed-height luminaire support devices, commonly referred to as "boom and base assemblies." Comments were received from one person during its public review, comments urging the document be rewritten to include pictures of right and wrong ways to assemble and use boom and base assemblies. The Working Group decided not to add that how-to advice and to keep the standard terse. Indeed, we have had objections in the past when we added illustrations, since pictures are "unenforceable."

**BSR E1.22, Entertainment Technology – Fire Curtain Safety Systems**, is a revision of the 2009 standard, revised to better align it with the requirements stated in *NFPA 80*. The draft standard describes the materials, design, fabrication, installation, operation, testing, and maintenance of fire

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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:** Designers in particular but also any other categories except users
- **Floors:** Custom-market producers, dealer/rental companies
- **Fog and Smoke:** Custom-market producers, dealer/rental companies, and designers
- **Followspot Position:** Designers, dealer/rental companies
- **Photometrics:** Custom-market producers, dealer/rental companies, users
- **Rigging:** Custom-market producers, designers
- **Stage Lifts:** Users, mass-market producers

The Event Safety Group is now in the process of being formed. It uses a different set of interest categories, and needs members in each of them. The categories are:

- Event producer
- Equipment producer
- Equipment dealer or rental business
- Designer of events (including artistic elements, safety systems, etc.)
- Event worker
- Performing artist
- Event insurance company
- General interest

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, but it is prorated if you join part-way through the year. 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://tsp.esta.org/tsp/working\\_groups/index.html](http://tsp.esta.org/tsp/working_groups/index.html).

safety curtains and systems used for theatre proscenium opening protection.

**BSR E1.31, Entertainment Technology Lightweight Streaming Protocol for Transport of DMX512 Using ACN**, describes a mechanism to transfer DMX512A packets over a TCP/IP network using a subset of the ACN protocol suite. It covers data format, data protocol, data addressing, and network management. It also outlines a synchronization method to help ensure that multiple sinks can process this data concurrently when supervised by the same controller. This revision includes the addition of DMX universe synchronization. The Control Protocols Working Group has approved it, so the motion moves on to the TSC and then the Executive Committee.

## New students

We have a few new projects; we invite any readers who are interested in them to become involved, either by joining the relevant working group or commenting on the drafts in future public reviews. The two new projects are:

**BSR E1.59, Automation Vector Transmission Protocol**, is a new project being undertaken by the Control Protocols Working Group with help from members of the Rigging Working Group. The project is to develop a communications protocol to describe scenery motion so that lighting, sound, video, and any other medium can track scenery or be triggered by its motion. Communicating between these various systems is often done now through custom-engineered solutions or a proprietary communication protocol. This standard is intended to allow systems designers to spend less time on establishing communication and more time innovating artistic solutions.

The last new project is so new that it does not have an alphanumeric designation yet:

## *The Event Safety Guide, second edition.*

This a joint project between the Event Safety Alliance and ESTA. The first edition of *The Event Safety Guide* is an excellent reference to help people plan and execute safe events. (See my review of it on page 66 in this issue of *Protocol*.) However, it needs expansion and revision for a second edition, and American National Standard status would help it gain wider recognition and more people using it. The revision work can be done as part of the process of creating an ANS. The plan is to work on the *Guide* as a multi-part standard, so that sections needing little work can be adopted and published quickly.

## Finding ESTA Docs

All our published standards are listed at <http://tsp.esta.org/freestandards>, and, as the URL says, they are free, thanks to the sponsorship of ProSight Specialty Insurance. They also are for sale on the ANSI and IHS websites at <http://webstore.ansi.org/> and <https://global.ihs.com/> respectively. The draft standards that are in public review are listed at <http://estalink.us/pr>. If you want to propose a project for a new standard, read in detail how ESTA's TSP works, or to find a working group application visit the "Procedural Documents" page at <http://estalink.us/evt6b>. All of the meeting minutes for our working groups going back 20 years are available on the working group pages linked from [http://tsp.esta.org/tsp/working\\_groups/index.html](http://tsp.esta.org/tsp/working_groups/index.html). ■



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