

While you were out

SUMMER'S NOW OVER in the northern hemisphere. It's Autumn. Back to work! . . . not that many *Protocol* readers ever stopped working during the summer, but some did, and those who kept working were busy keeping the entertainment industry going, enhancing other people's vacations. The volunteers in ESTA's Technical Standards Program kept busy working on standards to help build the business of show business, making doing shows and motion picture productions simpler, safer, and more profitable. They held two sets of working group meetings—in June and September—since my last "TSP News." Here's an update on some of their work, things you may have missed while you were out, whether at work or on vacation.

Control Protocols Working Group

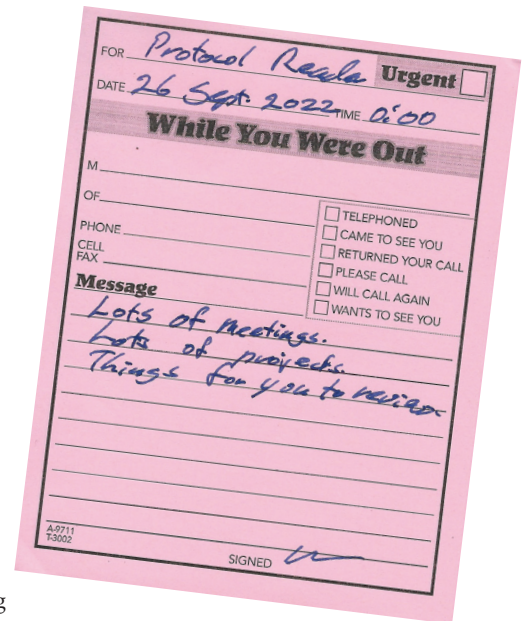
A number of projects are related to revising and expanding *E1.20, Remote Device Management over DMX512 Networks*. The RDM standard itself is being revised—a project that is taking years, due partially to its technical complexity, but also because of the disruptions caused by the COVID-19 pandemic. A public review of the revised *E1.20* was approved at the CPWG's September meeting; it will start a few days after I finish writing this TSP News column.

Actions were taken on a couple of other standards tied to *E1.20*: *BSR E1.37-1, Additional Message Sets for ANSI E1.20, Remote Device Management*, and *BSR E1.37-5, General Purpose Messages for ANSI E1.20 RDM*. *BSR E1.37-1* was offered for public review for reaffirmation earlier this year. One person commented, saying it was good, but could be better with some clarifications. The working group is reluctant to add a new project onto an already full agenda, a project to revise something that is good as it is but could be better (that describes just about everything). They were particularly loath to start a revision to make minor improvements when the document to be revised is dependent on another document (*E1.20*) that is now being revised with major changes. Better to keep the suggestions for the next revision, which is all but inevitable after *E1.20* is revised.

BSR E1.37-5 is also linked to *E1.20*, but it was already in the process of being revised. It will be offered for public review soon, along with well more than one-hundred examples for how to implement these general-purpose messages using JSON. The JSON examples are tools for seeing how things might work per the

standard, but they are **not** the standard.

Other significant actions at the last meeting include voting to offer a revised version of *ANSI E1.59, Entertainment Technology – Object Transform Protocol*, for public review. The existing standard is designed to help coordinate scenery, lighting, and sound in live productions, for example, keeping a moving light shining on Christopher's train as it rolls across the stage in *The Curious Incident of the Dog in the Nighttime*. However, coordinating the movement of real and virtual objects is important in motion picture production too, for example, when there's a dolly shot with live performers and a virtual background image has to match the changing point of view of the camera. Besides that real and virtual object position data, there is camera meta-data that's needed for the virtual image and post-production work. The revised *E1.59* standard has about 21% more pages.



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Electrical Power Working Group

A couple of EPWG standards have been reaffirmed and published since the last edition of TSP News: *ANSI E1.32, Guide for the Inspection of Entertainment Industry Incandescent Lamp Luminaires*, and *ANSI E1.58, Indoor Equipment Outdoors*. They are both useful, but *ANSI E1.58* is particularly significant in that it is now referenced in Articles 520 and 530 of the new 2023 edition of the *National Electrical Code*. For a longtime, the *Code* has said equipment listed for indoor use may be used outdoors if it is supervised by qualified personnel while energized and kept away from the general public. Okay, but what does “supervised” mean—or, more to the point, what will an Authority Having Jurisdiction accept as supervision?

ANSI E1.58 helps stage electricians and motion picture grips use indoor equipment outdoors with reasonable safety, but now, with it referenced in the *NEC*, it will help avoid expensive arguments with an AHJ.

That's good news, but the interesting discussion of the last meeting was about making *ESA Spec-003, Television, Film, Live Performance and Event Electrical Guidelines*, into an American National Standard. The document is one developed by the Entertainment Electrical Safety Association, a group based in Ontario, working with the Electrical Safety Authority, a not-for-profit operating as an Administrative Authority for the Ontario government. Art Wanuch, the person making the proposal that it be the basis for an American National Standard, argued that it is a useful document for describing how the entertainment industry can work safely with portable electrical equipment. Much motion picture work is done in Eastern and Western Canada and in the United States, with much of the same types of equipment; it would help to have a common document. There was a long discussion about making this a Canadian/US document, but the working group decided that a project to create a document that would work with the regulatory authorities on both sides of the border would be extremely difficult. The working group finally settled on limiting the project to being for electrical practices in Canada from coast to coast.

Why an **American** National Standard for Canada? Because ESTA has the process and the people to create a solid consensus document for Canadian work practices. Being an ANS may not have much formal legal weight in Canada, but it has the gravitas of being a recognized national standard, developed in an open and fair process. Besides, the document may be useful in the USA, even if it says "Canada" in the title. The Technical Standards Council recently received a request for permission to use part of an ESTA standard about single-conductor portable power feeder cable systems in Canada for a document about Disney live events in California. The reason given being, "The *E1.51* document provides me all the bones to address the broad topics to be considered." The TSC gave its okay.

Event Safety Working Group

The ESWG moved a couple of draft standards to public review at their last meeting and decided to stand by a vote they'd already taken to approve a third as an American National Standard.

The docs for public review are *BSR E1.5* and *BSR E1.40*. *BSR E1.5, Event Safety Requirements – Medical Preparedness*, was offered for public review last year and received a total of 19 comments from two people. A set of resolutions to the comments were approved at the last meeting. The resolutions substantively changed the draft document, so it was voted to be offered or another public review. *E1.40, Event Security*, was voted to be offered for a first public review. It covers what the title says, but is surprisingly interesting reading—at least for me.

A call for members

You can become part of the team of people working to make the entertainment industry simpler, safer, and more profitable by joining a working group. As of late September, the following working groups are looking for new voting members in these particular interest categories to help balance the interests in the working group.

- **Control Protocols:** General interest
- **Electrical Power:** Custom-market producers, designers, dealer/rental companies
- **Event Safety:** Equipment providers, performing artists
- **Floors:** Custom-market producers, dealer/rental companies
- **Fog and Smoke:** Dealer/rental companies, and mass-market fog equipment manufacturers
- **Followspot Position:** Dealer/rental companies
- **Photometrics:** General interest, dealer/rental companies
- **Rigging:** Designers
- **Stage Machinery:** Users

"Interest" means how the work of the group affects your livelihood or your health, and not that you find it way-cool. The interest categories are relative to how you are materially affected by the subject matter of the working groups. Definitions for the interest categories can be found on the second page of the working group application forms, which are available at <http://estalink.us/evt6b>. If you see any working groups that fit your interests and expertise, and you are in one of the under-represented categories, please join.

The new standard on the way is *ES1.18, Event Safety – Rigging*. It's in the final stages of approval within ESTA before being sent to ANSI. It's designed to help an event organizer or producer plan for any rigging that might be needed for a show, to understand what is needed, and to plan for the roles and responsibilities of various people or crews involved in the design, assembly, use, and removal of a rigging system for an event. It is for portable systems for special events; permanent rigging systems are outside its scope.

Fog and Smoke Working Group

Work continues on *BSR E1.74, Guidance on Ventilation for Indoor Stages and Motion Picture Studios*. The work is drawing on the experiences of working group members as they develop solutions to ventilation problems they are finding right now in the field. The working group is also looking at published ventilation recommendations from standards developers in North America and what is being done elsewhere, such as DTHG's *Prüfreglement zur Lüftung von Spielstätten bei Pandemie und Normalbetrieb (Testing Regulations for the Ventilation of Venues in Pandemic and Normal Operation)*.

Floors Working Group

The active project in the Floors Working Group is the development of *BSR E1.76, Tension Wire Grids*. It was offered for public review

early this year and received comments from a company that makes and installs modular tension wire-rope grids, who said it was good as it was, and comments from another manufacturer and an engineer who designs these grids saying the draft standard was not good. The draft standard is in public review again as I write this. The changes, besides satisfying the negative commenters, will make arguments with building code AHJs less likely while continuing to give guidance for tension wire grids that will meet the needs of productions.

Followspot Position

BSR E1.28, Guidance on Planning Followspot Positions in Places of Public Assembly, was revised to give guidance on followspot booth windows—assuming they have windows and not simply openings. The revised document was offered for public review this summer. No one commented, so there's nothing to resolve. The working group is now voting to accept the new version of *E1.28* as an American National Standard.

Photometrics

The Photometrics Working Group is in the process of reaffirming three standards: *ANSI E1.9 – 2007 (R2017), Reporting Photometric Performance Data for Luminaires Used in Entertainment Lighting*, *ANSI E1.25 – 2012 (R2017), Recommended Basic Conditions for Measuring the Photometric Output of Stage and Studio Luminaires by Measuring Illumination Levels Produced on a Planar Surface*, and *ANSI E1.35 – 2013 (R2018), Lens Quality Measurements for Pattern Projecting Luminaires Intended for Entertainment Use*. All were offered for public review this summer; none received any comments. Unless the working group decides to change the scope of two of the standards (one voter is arguing that) they will be reaffirmed soon.

The other active project is *BSR E1.41, Recommendations for Measuring and Reporting Photometric Performance Data for Entertainment Luminaires Utilizing Solid State Light Sources*, a revision of the American National Standard approved in 2016. It had been offered for public review this past summer. One person commented with comments that resulted in substantive changes, so it will be offered for public review again. That public review is on ESTA's standards management staff's to-do list.

Rigging Working Group

Manual counterweight rigging systems live on! *BSR E1.4-1, Entertainment Technology – Manual Counterweight Rigging Systems*, a revision of the 2016 American National Standard, was offered for public review early this year. No one commented, so nothing had to be changed as a result of the public review. It's now in the voting queue within ESTA for final approval as an American National Standard. *BSR E1.6-4, Design, Manufacture, and Inspection of Portable Controls for Electric Chain Hoists in the Entertainment*

Industry, and *BSR E1.6-5, Selection and Use of Portable Controls for Electric Chain Hoists in the Entertainment Industry*, both documents being products of a project to revise the existing *ANSI E1.6-4* from 2013, are in the final approval queue in ESTA. Both were offered for public review early this year and neither received any comments.

Much of the last meetings' time was taken up with discussions of the on-going project to revise and expand *E1.43, Performer Flying Systems*. It covers more types of performer flying systems than the current American National Standard from 2016. It now includes elastic media, such as bungee cords and silks. It's a major re-write.

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Stage Machinery

The Stage Machinery Working Group was once called the Stage Lifts Working Group. The name was changed to show an expanded scope, but it still works on stage lift standards. Its original project was for orchestra pit lifts, since those often gave engineers and theatre consultants building code approval problems. They aren't passenger or freight elevators, but some building codes only recognize passenger and freight elevators, leading to expensive discussions. *ANSI E1.42 – 2018, Entertainment Technology – Design, Installation, and Use of Orchestra Pit Lifts*, solved that problem for orchestra pit lifts, but it is being revised and its name changed to cover a wider range of lifts used in performance venues. The working group discussed the most recent draft at its meeting in September. It will be posted for public review soon. It's on the to-do list!

Weapons Safety Working Group

There is no Weapons Safety Working Group yet, but there should be soon. At the Technical Standards Council's last meeting, the Council agreed to set up such a group and appointed working group leaders. We have several people who have said they are interested in a weapons safety working group; an application form with material interest categories specific to this project is in the works.

The purpose of the Weapons Safety Working Group is to create a guidance document for the safe use of weapons or weapon-like properties (props) in entertainment event productions. It would cover prop weapons, such as those that look like firearms (whether capable of firing cartridges or not), edged weapons (e.g., swords and knives), and projectiles (e.g., arrows and darts). The standard would only cover weapons and weapon-like props used on stages, in motion picture studios, or on motion picture locations in the production of a staged or filmed event. It would not cover weapons

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used by security forces or carried by audience members or staff for personal protection. (No threat to the Second Amendment!) It also would not cover weapons used in sporting events, such as bullseye pistol or fencing competitions. The goal is to eliminate injuries and deaths from weapons or weapon-like props used in entertainment productions. The actor playing Hamlet should not actually die on stage.

Setting aside the nascent Weapons Safety Working Group, do any of the above projects look like they affect your work or livelihood? If so, you can become involved, either by commenting on public review documents at <http://estalink.us/pr> or by joining a working group. We need people from particular interest categories to join the existing working groups. Please see the “Call for Members” sidebar if you are interested in joining. ■



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