

Lessons from Sondheim



ON SUNDAY, NOVEMBER 28, Broadway stars and fans gathered in Father Duffy Square and on the TKTS steps in Manhattan to sing “Sunday,” from Stephen Sondheim and James Lapine’s *Sunday in the Park with George*. The singing was to honor Stephen Sondheim, who had died unexpectedly on Friday morning, November 26, at the age of 91. Sondheim was a giant in musical theatre, with a musical career that spanned over six decades. At the time of his death, revivals of two of his musicals, *Assassins* and *Company*, were playing in New York—and Sondheim was working on a new musical, an adaptation of the Luis Buñuel films *The Exterminating Angel* and *The Discreet Charm of the Bourgeoisie*. Tributes to Sondheim were offered from the stages of *Assassins* and *Company*, and an impromptu sing-along of Sondheim songs went on for hours Friday night at Marie’s Crisis Cafe, with a line forming outside the Cafe to get in starting in the late afternoon. Across the street from Marie’s Crisis, at the Duplex, an ad hoc reunion of “Mostly Sondheim,” an open mic celebration, was held.

There are lots of tributes to Stephen Sondheim in hard-copy and on the Web—as you would expect from a person universally described as a giant of musical theatre—but what strikes me is the number that talk about how Sondheim learned his craft, whom he in turn mentored, and his work as a collaborator. He was often both composer and lyricist, but he worked with others for the book, the direction, the orchestration, and more. His greatest works were long collaborations. *Putting It Together*, a 390-page book by James Lapine, is subtitled *How Stephen Sondheim and I Created Sunday in the Park with George*, but it’s full of stories of others contributing to the development of the show before it opened at the Booth Theatre. The musical number “Lesson #8” was added late. Initially the music was

only a piano score, but before the orchestration could be written, half the orchestra was playing along. “Les Scott added a saxophone part to Mandy’s song before Michael [Starobin] had even written it,” musical director Paul Gemignani is quoted as saying.

“There may be lone geniuses, but they are rarely alone. The best we humans do is the result of working together. It’s a process: a few steps forward, a few steps back, and maybe a step in another direction until we get to where we need to be.”

Nobody is going to get teary-eyed reading one of ETA’s standards (as I do hearing “Sunday”), but reading this story of the saxophone accompaniment, I am reminded of Bill Klages, as the Photometrics Working Group was struggling with what became ANSI E1.9, saying, “What about shining the light at a wall?” Thus, isolux diagrams. There may be lone geniuses, but they are rarely alone. The best we humans do is the result of working together. It’s a process: a few steps forward, a few steps back, and maybe a step in another direction until we get to where we need to be.

Here are a few of the steps we have made in ETA’s Technical Standards Program, and a few steps not yet made, but with a leg swinging forward.

Published

The following standards have been approved and published recently. Some are reaffirmations, which, like a revival of a show, take less work than making a new standard, but reaffirmations are still

important. If a standard is not reaffirmed, eventually it disappears. A show that's never revived eventually is only in the history books. Of course, new standards are premieres!

ANSI ES1.4 – 2021, Event Safety – Event Fire Safety Requirements, is new standard, covering what the title says: fire safety in the live event industry. Fire safety is the identification and assessment of event-specific fire risks, and the effects that fire and smoke will have to the life safety of all persons who may be affected. It includes those measures required to minimize the likelihood of a fire starting, means of escape (egress), fire safety monitoring, and the methods used to limit the development, spread, and effects of fire. This standard does not address (a) requirements related to certifying fire fighters and their associated training; (b) requirements related to the construction of firefighting equipment; (c) requirements related to the construction, use, and maintenance of motorized firefighting apparatus; (d) technical requirements of any equipment used for communications, illumination, signs, or other hardware; or (e) installation of fixed fire alarm and suppression systems.

It's available at no cost on the ESTA TSP website at <https://tsp.esta.org/freestandards>, but, if you want to buy it, it costs \$40 from ANSI or IHS Markit. Tell your friends to get it for free; tell your enemies to buy it! If it's bought, ESTA and ANSI or IHS make some money.

ANSI E1.19 – 2021, Recommended Practice for the Use of Class A Ground-Fault Circuit Interrupters (GFCIs) Intended for Personnel Protection in the Entertainment Industry, is a new version of E1.19, offering guidance, in accordance with existing applicable standards (We don't ignore *UL 943* or the *NEC*), on how to select, install, use, and maintain ground fault protection devices in the entertainment industry to protect persons from shock and persons and property from fire. It's available at no cost on the ESTA TSP website. If you want to buy it, it costs \$15 from ANSI or IHS Markit. Cheap at twice the price!

ANSI E1.16 – 2002 (R2021), Entertainment Technology – Configuration Standard for Metal Halide Ballast Power Cables, is a reaffirmation of the standard published almost two decades ago. It describes a standard practice for grounding contact assignment for detachable power cables on 6 kW, 12 kW, and 18 kW metal-halide lamp ballasts used in the motion picture and television industries on portable studio luminaires that use a common, three-contact, circular connector on the connection between the detachable power cord and the ballast. It's free on the ESTA TSP website, and \$15 from ANSI or IHS. The standard's substance is one sentence and a picture.

ANSI E1.24 – 2012 (R2021), Entertainment Technology – Dimensional Requirements for Stage Pin Connectors, is reaffirmation of the standard published over a decade ago. It's a configuration standard giving the mating requirements for male and female pin connectors, contact set-backs from the front face, and marking requirements. Stage pin connectors have not changed shape

in decades, and they shouldn't! 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 from the TSP website is a ZIP file of 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. The document for sale for \$40 from ANSI and IHS is the standard alone without the CAD files. You get more for less money from the ESTA TSP website; less for more money from ANSI or IHS. The choice is yours.

ANSI E1.40 – 2016 (R2021), Recommendations for the Planning of Theatrical Dust Effects, is a reaffirmation of the five-year-old standard. It doesn't say what must be used or what must not be used for dust effects, but it lays out the things to be considered. (Asbestos powder? Not flammable! But carcinogenic. Never mind.) It's now available for free download on our website or you can buy it from ANSI and IHS for \$40.

ANSI E1.55 – 2016 (R2021), Standard for Theatrical Makeup Mirror Lighting, is what the title says: a standard for the lighting systems used with makeup mirrors and makeup stations in theatres and other performance venues. It describes the topology of the makeup mirror lighting system, the quantity of light, the distribution of light from those sources, apparent source size, brightness, color rendering, and correlated color temperature. This edition of the standard uses the Fidelity Index (R_f) rating per *IES TM-30-15, IES Method for Evaluating Light Source Color Rendition*, as an acceptable rating to meet the requirements for color rendering. The standard was developed at the request of Actors' Equity Association to help their members. When someone installs greenish CFLs in dressing rooms and stonewalls, "So, what's the problem?," it's useful to be able to slap an American National Standard on the table and say, "Follow this." List price is \$40, but it is available at no cost from the ESTA TSP website.

Interesting Projects

Standards projects are like children—yours are always the most interesting—but here are a few that are likely to be of particular interest to *Protocol* readers.

BSR ES1.8, Event Safety – Venue and Site Design, and *BSR ES1.40, Event Security*, are two projects in the Event Safety Working Group. Neither draft document has gotten to the point of being offered for public review, but their subject matter is likely to be of concern as people sort out what went wrong at the Astroworld Festival in Houston. Eight people died and hundreds more were injured in a crowd surge. Crowd management is already covered by *ANSI ES1.9 – 2020, Event Safety – Crowd Management*, and *NFPA 101, The Life Safety Code*, but the design of the venue and the security planning

and staff training are involved too. Everything has to fit together, and the Event Safety Working Group is drafting some of the pieces of the puzzle.

BSR E1.73, Next Generation Entertainment Control Model: Uniform Device Representation (UDR), is a project in the Control Protocols Working Group to develop a framework manufacturers of entertainment equipment can use to describe in a digital format controllable and visualizable devices. The framework will enable descriptive information about devices and their state, including parameters and physical properties, and the metadata needed to describe them. The method will be provided to map controllable parameters to existing control endpoints, specifically endpoints associated with the control protocols defined in *ANSI E1.11* (DMX512), *ANSI E1.20* (RDM), and/or *ANSI E1.31* (sACN). Progress is being made, with most of the problems and scalar items to be transported having been identified, but there is still a mountain of work to be done.

BSR E1.77, Secure Authentication for ESTA Streaming Protocols, is another Control Protocols Working Group project. It's to address recent legislation that requires "connected devices" to be provided with reasonable security, and also to be able to address requests by end-users in the market for some reasonable level of security. This standard is to provide message authentication for unidirectional ESTA streaming control protocols, such as *ANSI E1.31* and *ANSI E1.59*. It won't assure that a message is bug-free, but it will assure that when a message supposedly comes from "FOH Console A" it is coming from Console A and not the anonymous hacker "sitting on their bed" Donald Trump identified as a cybersecurity threat in the 2016 September presidential debate. There was an argument at the recent CPWG meeting that we should be providing, not only message authentication, but security for the message itself. This was not identified as such, but sounded very much like the product security provided by the Apple App Store and Google Play. No one denied that buggy messages could be a problem, but only one person seemed to feel it was ESTA's problem.

The Fog and Smoke Working Group has a new project, *BSR E1.74, Guidance on Ventilation for Indoor Stages and Motion Picture Studios*. Now that theatres in New York and Connecticut are open again, I've been going to one or two shows a week. In most venues, people must be fully vaccinated and wear masks to get into the building, but I also can hear and feel that the ventilation has been stepped up—ventilation being key to curbing the spread of SARS-CoV-2 and other air-borne infectants. The mezzanine lobby at Studio 54 has a silver box about the size of a refrigerator blowing filtered air into the space. Is this reasonable? Is it adequate? *E1.74* will provide guidance when it's finished. Progress has been slow. Most of the major players in the Fog and Smoke Working Group are busy getting shows and studios open, addressing ventilation issues right now, but nothing is ever lost. Things learned will inform this document for the future.

These are a few of the many projects in the TSP's working groups; this list is filtered by what I feel like writing about now. If you want to know more, you can peruse the approved working group minutes available via the links at <http://estalink.us/working>. It's all there: what people are working on, what's been done, and who is doing it.

Do any of the projects interest you? You can join a working group (see the "Call for Members" sidebar) or visit a meeting. The meeting schedule, with the times, is available at <https://esta.org/ESTA/meetings.php>. The January 2022 meetings will be via WebEx. The meeting log-in information is part of the meeting agenda for each working group member or pending member, which is not posted for the general public. The meetings are not secret, but we don't want the WebEx equivalent of Zoom-bombing. However, if you want to listen in, send an email to standards@esta.org, and the agenda with log-in information will be sent to you. If you find a meeting interesting, perhaps you will want to join. Of course, you can always comment on a document when it's in public review. Visit <http://estalink.us/pr>. ■



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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. At this time, 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, designers, dealer/rental companies—not manufacturers.
- **Electrical Power:** Designers, general interest, anybody but users.
- **Event Safety:** Equipment providers, performing artists, insurance companies, event producers.
- **Floors:** Designers, dealer/rental companies.
- **Fog and Smoke:** Dealer/rental companies and equipment manufacturers, but really anybody other than users. Half the voting body is users, and that's too much.
- **Followspot Position:** Producers of any type, dealer/rental companies.
- **Photometrics:** Dealer/rental companies, designers, general interest.
- **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 and something to impress your friends. The interest categories are relative to how you are 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.