

Goodbye Pisces. Hello Aquarius!

FIFTY YEARS AGO *Hair* ended its six-week run at The Public Theater at Astor Place. It reopened a little later, in December 1967, for a very short run at the Cheetah Discotheque, and then reopened as a much-revised version at the Biltmore Theatre in April 1968 and ran for 1,750 performances. That's the version most *Protocol* readers know—with catchy songs, colorful costumes, and rock concert lighting on an almost bare stage—but I'm writing about *Hair* for the opening song, which announces the dawning of the Age of Aquarius. The lyrics by Rado and Ragni promise

*Harmony and understanding
Sympathy and trust abounding.
No more falsehoods or derisions
Golden living dreams of visions
Mystic crystal revelation
And the mind's true liberation.
Aquarius*

We're now five or six years into the Age of Aquarius, which some people say

started in 2012 and others say started in 2011. Either way, we've left the Piscean Age and are now into the Aquarian Age. Santokh Singh Khalsa, the director of The Awareness Center, describes the Piscean Age as dominated by hierarchy and power. The Aquarian Age will be dominated by networks and information. "Nothing is secret anymore. All information is available at your fingertips," he writes on the 3HO website.

Decades ago, my psych-lab team found no correlation between people's sun signs and their personality traits as measured by the Omnibus Personality Inventory, so I am not arguing for the efficacy of Astrology, but I do find the contrast between hierarchy/power and networks/free information useful. It's a contrast that shows up repeatedly in standards work.

I got a voice mail recently from the director of a performing arts center who wanted to talk about "ESTA's ruling" on ANSI E1.46, *Standard for the Prevention of Falls from Theatrical Stages and Raised Performance Platforms*. ESTA doesn't rule.

This is an example of hierarchical thinking. ESTA's Technical Standards Program helps people reach consensus. E1.46 does have requirements, such as that there be a fall protection plan that provides reasonable measures to protect people from falls from stages and raised performance platforms, but this is an expression of the Floors Working Group's consensus, shaped by public review, of the minimum a responsible person should do to protect people. Enforcement, if there is any, comes from government or other authorities that can compel someone to follow the standard, but that is external to the standard. The standard is the result of people talking to each other and listening, a human network of information and understanding.

"Harmony and understanding, sympathy and trust abounding," are the lyrics of a fantasy, but I have often been amazed at how well people work together in our TSP meetings. We had 71 people attending



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the Rigging Working Group meeting in Las Vegas in November, and our biggest communication problem was the noisy air conditioning! Sometimes the discussions get heated, but we think, write, talk, listen, think some more, revise, and move forward.

Recently published

Four standards have been published since the last installment of TSP News. All are available for download at no cost from the ESTA TSP website at <http://estalink.us/freestandards>, thanks to the sponsorship of ProSight Specialty Insurance. They also can be purchased from ANSI and IHS at <https://webstore.ansi.org/> and <https://global.ihs.com/> respectively. In alphanumeric order, they are:

ANSI E1.9 – 2007 (R2017), Reporting Photometric Performance Data for Luminaires Used in Entertainment Lighting. This standard defines the minimum photometric data to be presented on documents purporting to accurately describe the photometric performance of stage and studio luminaires used in the live entertainment and performance industries. This is a reaffirmation of the 2007 edition, which was a revision of the standard first published in 2001. The project was started back in the Piscean Age when people argued that profile spotlights should have “cosine” or “flat field” distributions, and cyclight manufacturers said the argument was irrelevant to their products. The solution was to require isolux diagrams to give specifiers the information they need to decide what will work for them.

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. This document describes the basic conditions for measuring the photometric output of a stage or studio luminaire by testing methods that measure the illumination levels produced by the luminaire on a planar surface. These testing methods usually use measurements taken by digital cameras or hand-held

meters, but not testing methods that use goniophotometers. There’s no flat plane with a goniophotometer.

ANSI E1.36 – 2007 (R2017), Model Procedure for Permitting the Use of Tungsten-Halogen Incandescent Lamps and Stage and Studio Luminaires in Vendor Exhibit Booths in Convention

and Trade Show Exhibition Halls. This document has been written to offer a model set of procedures that can be used by convention center and trade show exhibition hall staff to mitigate the risks perceived to be associated with the use of tungsten-halogen lamps and stage and studio luminaires. The standard was written

A 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:** General interest, dealer-rental companies
- **Electrical Power:** Designers, custom-market producers
- **Event Safety:** Performing artists, 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—all categories except users
- **Followspot Position:** Custom-market producers, dealer/rental companies
- **Photometrics:** Dealer/rental companies, designers, general interest, 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>.

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in response to one major convention center banning TH lamps because they thought they were dangerous. The perceived danger is mitigated by common-sense fire prevention steps.

ANSI E1.58 – 2017, Electrical Safety Standard for Portable Stage and Studio Equipment Used Outdoors. The *National Electrical Code* in sections 520.10 and 530.6 says that portable stage and studio lighting and power distribution equipment not identified for outdoor use shall be permitted for temporary use outdoors “provided the equipment is supervised by qualified personnel while energized and barriered from the general public.” This allows us to use indoor stage equipment outdoors, but it doesn’t give much advice on how the equipment should be reasonably supervised or barriered. *ANSI E1.58* was written to give that advice.

In public review

Four documents are available for public review on ESTA’s TSP website as I write this. They probably won’t be there when you read this, but others will be posted, and there is an RSS feed on the page to notify you when they are. That said—or written—this listing will give you an idea of what the TSP has been doing. All public review documents are available for review at <http://estalink.us/pr>, and the review is free. In alphanumeric order, they are:

BSR E1.4-2, Statically Suspended Rigging Systems – This draft

standard addresses statically suspended rigging systems (dead-hung battens and grids) permanently installed in performance spaces, places of assembly, and other areas used for entertainment purposes. People have tried to apply the batten specifications from the *E1.4* standard for manual counterweight systems to dead-hung battens and grids, but that’s not an obvious or simple translation of requirements. This new standard should help.

BSR E1.4-3, Entertainment Technology—Manually Operated Hoist Rigging Systems – This draft standard applies to permanently installed, human-powered manually operated hoists used as part of rigging systems for raising, lowering, and suspension of scenery, properties, lighting, and similar loads. This is for systems that don’t use counterweights, only muscle-power. This is another new standard.

BSR E1.35, Lens Quality Measurements for Pattern Projecting Luminaires Intended for Entertainment Use – This is a public review of an existing standard, *ANSI E1.35 – 2013*. The standard describes a method for measuring stage and studio luminaire lens quality with particular emphasis on contrast and perceived sharpness. It also offers a way for presenting these results on a datasheet in a format that is readily understood by a typical end-user.

BSR E1.51, The Selection, Installation, and Use of Single-Conductor Portable Power Feeder Cable Systems for Use at 600 Volts Nominal or Less for the Distribution of Electrical Energy in the Television, Film, Live Performance and Event Industries in Canada – E1.51 is intended to offer guidance, in the context of applicable standards and regulations in Canada, on how to select, install, use, and maintain single-conductor portable feeder cables used to supply power for television, film, live performance, and special events in Canada. This is a new standard.

New projects

Several new projects came out of the working group meetings held in Las Vegas in November. One is a totally new project and the others are revisions of existing standards.

The Floors Working Group has voted to start a new project: **BSR E1.62, Minimum Specifications for Mass-Produced Portable Platforms, Ramps, Stairs, and Choral Risers for Live Performance Events.** It’s to cover mass-produced portable platforms, stair units, and ramps used with those platforms, and choral risers. It would also cover railings provided as fall protection accessories for these units. It would not cover custom platforms or complete stage systems. It would give minimum payload and sideways force handling specifications. The project is being undertaken because there is no American National Standard that unambiguously covers the products within this proposed standard’s scope. The IBC gives a minimum distributed load rating for portable platforms, but does not provide a point load rating, a sideways load specification, or deflection criteria. *NFPA 102* would cover these platforms, but only if they are arranged to make tiered seating. If there are no

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seats or the platforms aren't in tiers, *NFPA 102* doesn't apply. *DIN 15921* covers much of this material, but it is in German, and it has a loading specification for railings that is probably lower than what most people would find acceptable in North America.

The Rigging Working Group has voted to start work to revise *ANSI E1.21, Entertainment Technology—Temporary Structures Used for Technical Production of Outdoor Entertainment Events*. The document establishes a minimum level of design and performance parameters for the design, manufacturing, use, and maintenance of temporary ground supported structures used in the production of outdoor entertainment events. Discussions at the working group meeting suggest that there may be more guidance offered in a future edition about the Operations Management Plan.

The Rigging Working Group has also voted to start work to revise *ANSI E1.47, Entertainment Technology—Recommended Guidelines for Entertainment Rigging System Inspections*. The standard offers guidance on inspecting entertainment rigging systems—which are systems used to lift and support scenery, luminaires, and other equipment overhead in entertainment venues, such as theatres, video/film studios, amphitheatres, and arenas used for live performances or special events—including recommended inspector qualifications and responsibilities, scope and frequency of inspections, content of the rigging inspection report, and related information concerning the inspection process.

The Stage Lifts Working Group has one standard, *ANSI E1.42, Entertainment Technology—Design, Installation, and Use of Orchestra Pit Lifts*, and it has voted to start work revising it. This standard 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. Discussions at the last Stage Lifts Working Group meeting involved allowing more flexibility in creating reliable control systems.

Do any of these projects have an impact on your business, health, or happiness? Do you have something to contribute? If so, you can work with your peers as part of the community helping to build the business of show business by commenting on these standards in future public reviews or by joining the working groups developing them. See "A Call for Members" accompanying this story for information about joining working groups. Welcome to the Aquarian Age! ■



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