BY **KARL G. RULING**

Happy New Year! 新年好!

THE CHINESE LUNAR NEW YEAR starts on the second new moon after the winter solstice, which is February 19 of the Gregorian Calendar. It's a big festival, one of China's "Golden Weeks." It's officially only three days long, but people stretch it into a week or more of celebration, with visits to family and resorts. People prepare for it with a thorough house cleaning and purchases of enough food, including fish, meat, roasted nuts, candies, and fruits to last the festival period. It's a flurry of activity, with lots of money spent, which is one of the reasons it is called a "Golden Week."

PLASA's Technical Standard Program isn't buying a lot of food or decorating the offices with red fú (福) characters, but its meetings near the end of the 2014 Gregorian Calendar year have pushed a lot of projects forward into the Year of the Goat, 2015.

In public review

As I write this, nine draft PLASA standards are in public review on the PLASA website at http://plasa.me/4xvjf. Eight of them will still be in public review when we actually reach the first day of the Chinese New Year. In numerical order, they are:

BSR E1.4-1 – 201x, Entertainment Technology – Manual Counterweight Rigging Systems. This standard applies to permanently installed, manually operated systems of stage rigging hardware for the raising, lowering, and suspension of scenery, lighting, and similar loads. We already have an ANSI E1.4 standard for manual counterweight rigging systems, but the standard is being broken into parts to cover counterweighted systems, dead-haul manual winches, and dead-hung rigging.

BSR E1.17 – 201x, Entertainment Technology Architecture for Control Networks. This is a revision of the ACN standard that only affects part of it. EPI 19, ACN Discovery on IP Networks, is being revised to work more efficiently.

ANSI E1.23 – 2010, Entertainment Technology – Design and Execution of Theatrical Fog Effects. This is a reaffirmation of the existing standard. The standard's title pretty well describes what the standard covers. There are many ways to write a standard, but this one looks like an NFPA standard. Besides offering guidance on how to plan and execute fog effects, it's a good back-up when an Authority Having Jurisdiction wants to know why you are doing what you are doing.

BSR E1.37-5 – 201x, General Purpose Messages for ANSI E1.20, RDM. This is a new part of the existing *E1.37* suite. It provides additional Get/Set parameter messages (PIDs) for use with the *ANSI E1.20 Remote Device Management* protocol.

BSR E1.43 – 201x, Entertainment Technology – Performer Flying Systems. This draft standard establishes a minimum level of performance parameters for the design, manufacture, use, and maintenance of performer flying systems used in the production of entertainment events. The purpose of this guidance is to achieve the adequate strength, reliability, and safety of these systems to ensure safety of the performer under all circumstances.

BSR E1.50 – 201x, Entertainment Technology – Safety Requirements for LED, Video, and Display Systems. The scope of this draft standard covers LED and other self-illuminated video display structures used as part of the scenery in concerts, theatre shows, and special events. The standard includes advice on planning and site preparedness, assembly and erection, suspension and safety of components, special access requirements, and the use and dismantling of these systems.

BSR E1.54 – 20xx, PLASA Standard for Color Communication in Entertainment Lighting. This new draft standard specifies a standardized color space, and defines the locations of the RGB primaries and the White Point for the purpose of facilitating the communications between lighting controllers and color-changing luminaires. It offers a standardized way of specifying color. The method is generic and is neither manufacturer-specific nor color technology-specific.

BSR E1.55 – 20xx, Standard for Theatrical Makeup Mirror Lighting. This new draft standard applies to lighting systems for makeup mirrors and makeup stations used by performers and makeup artists for applying makeup to performers 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.

ANSI E1.30-4 – 2010, EPI 26. Device Description Language (DDL) Extensions for DMX512 and E1.31 Devices. This is a reaffirmation of *ANSI E1.30-4*, part of the *E1.30* suite. This part defines protocol-specific extensions to *ANSI E1.17's Device Description Language* for describing DMX512-type devices.

At final approval stage

The following documents have been approved by their working groups, the Technical Standards Council, and the PLASA NA Executive Committee for adoption as American National Standards. Next we will file the required BSR9 forms with ANSI outlining the approval process we have followed—and if all that is in order, they will become American National Standards.

BSR E1.19 – 201x, Recommended Practice for the Use of Class A Ground-Fault Circuit Interrupters (GFCIs) Intended for Personnel Protection in the Entertainment Industry. This is a revision of the existing *E1.19* standard, and the title accurately says what the standard covers. It was voted on for acceptance by the Electrical Power Working Group, with a concurrent public review. A few public review comments were received, but none of them persuasively argued for making substantive changes to the proposed standard. The comments were resolved, and so now we're on to the last steps in the approval process.

BSR E1.39 – 20xx, Entertainment Technology – Selection and Use of Personal Fall Arrest Systems on Portable Structures Used in the Entertainment Industry. The Rigging Working Group voted to accept this draft document as a new American National Standard with a concurrent public review that ran through November 3. Comments were received, resolved, sent back to the commenters, and accepted. No substantive changes were made to the draft standard, so it's done—at least for now.

The final vote with a concurrent public review used for these documents

is a procedure that ANSI auditors had recommended to us to save time. It can be a little confusing ("We're done, but we still might get comments that will makes us change it, so we're not really done?"), but it makes sense when the working group thinks that pretty much all the objections or suggestions that might come from outside the working group have been heard. Eventually with every standard the public review comments start reading like déjà vu all over again.

Recently published

One standard has been published since the last TSP News column. It's available for free download, thanks to the sponsorship of Prosight Specialty Insurance, on the PLASA website at http://plasa.me/67xd0. Alas, before you get too excited, dear Reader, note that an errata for the document has been issued, and work to officially fix the standard will start soon.

Our buggy but recently published standard is *BSR E1.37-2, Entertainment Technology – Additional Message Sets for ANSI E1.20 (RDM) – Part 2, IPv4 & DNS Configuration Messages.* It's part of the *E1.37-x* suite to extend the functionality of RDM. It's an open-ended suite, so we can add parts to it as new message sets are developed.

A new project and one on the horizon . . . maybe

The Technical Standards Council recently approved a new project in the Floors Working Group: **BSR E1.57 – 201x, Recommendations to Prevent Performer and Technician Falls on or off Movable Parade Floats, Movable Stages, and Similar Moving Platforms.** The project is being undertaken at the suggestion of working group members who represent the Walt Disney Corporation. They have extensive experience with parade floats and with the

hazards faced by performers and technicians standing on them as they move. The project is to expand that knowledge of risks and risk mitigation and to make it available to other organizations of companies that place personnel and volunteers on parade floats and moving stage platforms.

The possible project on the horizon is one to write a standard stating mandatory requirements for mounting lighting equipment and accessories overhead and for providing safety cables or chains ("secondary suspension devices") for them. The idea was discussed in the Electrical Power, Rigging, and Photometrics working groups at the TSP meetings in Las Vegas in November. The discussions were lively, and there definitely is interest in doing something, but we do not have a formal proposal yet, so exactly what "something" might be and who shall do it is not known.

The topic arose because of an email that your Technical Standards Manager received from Keith Sklar, Chief Outside Business Representative for Actors' Equity. He wrote: ". . . it has been brought to the attention of Actors' Equity Association that there has been a few incidents under our agreements involving lighting instruments falling from their positions and crashing onto the stage floor when people are working. Recently, a lighting instrument managed to become undone from its overhead position during a performance and fell to the stage floor. Luckily, no one was injured. Another recent incident was a top hat from a lighting instrument free falling and landing on the stage floor during a performance. Again, no one was injured in that incident." The email goes on to ask about any existing standards that would cover the proper rigging of equipment or help in developing standards if they don't exist.

It's an interesting topic. Section 5 of the *Occupational Safety and Health Act of 1970* contains the general duty clause, which says that each employer "shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to

cause death or serious physical harm to his employees . . ." Falling equipment, since it is known that equipment sometimes falls, would obviously be a recognized hazard, but what tells anybody hanging lighting equipment how it should be hung and accessories installed, and if a safety cable should be used? Not much.

ANSI E1.32, Guide for the Inspection of Entertainment Industry Incandescent Lamp Luminaires, tells the reader that before a luminaire is hung, a person should inspect the gel-frame retaining clips for cracks, breakage or proper operation, and inspect the mounting hardware and safety cable. Replace missing or damaged safety cables. However, it doesn't actually say a person has to use these things, only make sure they are there and usable. Furthermore, *E1.32* is for incandescent luminaires; HID and LED instruments are outside its scope.

At the November Electrical Power Working Group meeting one person thundered that UL requires a proper

Call for members

PLASA'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: dealer/rental companies, designers
Electrical Power: dealer/rental companies, designers
Floors: dealer/rental companies, designers
Fog and Smoke: dealer/rental companies, designers, general interest
Photometrics: dealer/rental companies, designers, users
Rigging: designers
Stage Lifts: users, general interest

Voters in PLASA's Technical Standards Program are required to attend meetings and to vote on letter ballots. Membership in PLASA is not a requirement for participation in the PLASA Technical Standards Program. More information about becoming involved in the Technical Standards Program is available at http://plasa.me/bk7x9.

mounting clamp and safety cable, so using an instrument without them would be contrary to the instrument's Listing. However, that's not true. *UL 1573, Stage and Studio Luminaires and Connector Strips*, says that "the structure and all joints of an overhead product and its accessories shall be capable of supporting a static load of not less than six times the actual load supported." It also says that "a safety cable, safety chain, or other field-installed backup-restraint device intended to 'catch' a falling object shall be capable of supporting a static load of not less than six times the intended load." These clauses specify the strength of the suspension devices, but the standard does not require them to be part of the luminaire. Often they are after-market accessories; if they are not part of the luminaire, they are not tested as part of the Listing process. In any case, there is nothing in the UL standard that says an electrician actually has to use a safety cable when hanging an instrument, and nothing about safeties for barndoors and half-hats.

The European standard for stage and studio luminaires, *EN 60598-2-17*, is similar to the UL standard in that it gives strength requirements for suspension devices, but it goes beyond the UL standard in that it requires a back-up suspension device (e.g., a safety cable) to be provided. However, the C-clamp or other primary mounting is optional, and it still doesn't require anyone to use it or a safety.

Luminaire manufacturer's instructions would be expected to tell a person how to safely hang an instrument, but not all cover all aspects of instrument hanging. No comprehensive survey of all manufacturers' instructions has been done, but a quick look at the ETC Source Four User Manual shows some of the information a user might need is there, but not all of it. The manual tells the user how to hang the instrument with the C-clamp, even giving torque specifications for the C-clamp pipe bolt. It also cautions the user to "make sure all color frame accessories are locked in position with the retaining clip before hanging the Source

Four fixture." However, there is nothing in the manual about using safety cables, although the 36° Source Four datasheet lists a safety cable as an accessory.

Falling equipment is probably not a common problem, but it's a big problem for the person standing under the equipment when it falls. Furthermore, equipment is falling often enough that actors are worried about it and are complaining to their business representatives. Worry is something that can grow with very little to feed it—and that is a problem for all of us. If an actor is worried about getting clobbered on stage, the actor is not going to give the best performance possible. When performances aren't good, the show isn't good, never mind the splendid lighting, sets, costumes, and sound.

Ultimately PLASA's Technical Standards Program is about building the business of show business. We do this by writing standards that help people do shows safely and efficiently, with as little hassle and worry as possible. It's just good business.

So, with that, I wish you, 新年好! Happy New Year! ∎

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