

Minutes
Fog and Smoke Working Group
March 19, 1998
Long Beach, CA

Chairman: Larry Schoeneman; Interesting Products (Principal)

Recording Secretary: Karl G. Ruling

People in attendance: Murray Gellatly; A.C. Lighting Ltd.; Principal
Hugh A. Rose; Alliance of Motion Pict. & Television Prod.; Observer
Brad Dittmer; Associated Theatrical Contractors; Principal
F. Lee Iwanski; Four Star Lighting; Principal
Mike Wood; High End Systems; Principal
Adrian Segeren; Le Maitre Special Effects; Principal
Marc Gingras; MDG Fog Generators; Principal
George Sabbi; PRG Lighting Division; Observer
Jim Gill; Reel FX; Principal
Eric Tishman; Rosco Laboratories; Principal
Bill Hektner; USITT Health & Safety Commissioner; Principal
Günther Schaidt; VPLT (Safex Chemie); Alternate (voted in at this meeting)

Gary Fails (City Theatrical, Inc.; Principal) attended the Board meeting across the hall, but stepped in at the beginning of the fog and smoke meeting to announce that he was available if his participation was needed in a discussion and a vote.

1 Opening remarks

Larry Schoeneman called the meeting to order at 7:07 p.m.

2 Attendance and membership

2.1 Introductions of those present

The people present introduced themselves, proceeding clockwise around the table.

2.2 Determination of quorum (7 needed)

We had ten voting members present at the beginning of the meeting -- and Gary Fails if things got contentious -- so Larry Schoeneman announced that we had a quorum.

2.3 Recognition of alternate voting members

There were none at the beginning of the meeting.

2.4 Requirements for membership

Larry Schoeneman reiterated the attendance requirements:

"If you miss two consecutive meetings, your status will be changed to observer, pending your return to the meetings."

2.5 Processing of new membership applications

Günther Schaidt, president of Safex Chemie, applied as an alternate representing the VPLT trade association. Heinz Siller from RST Präsentationssysteme applied as an observer.

Brad Dittmer moved that the two applications be accepted. Jim Gill seconded. Unanimous by show of hands.

2.6 Processing of changes to observer status

Larry Schoeneman noted that this was the second meeting since the explicit attendance requirements went into effect, so people who had missed two or more meetings now had their status changed to observer. Voting members who have missed two or more meetings (and whose alternates or principals have also missed these meetings) and who are now observers to the working group are:

Patrick O'Rourke; Big Apple Lights (last meeting attended pre-January 1996)
Joe Tawil; Great American Market (last meeting attended pre-January 1996)
Greg Meeh; Jauchem & Meeh, Inc. (last meeting attended March 1996)
Norman Wright; Jem Smoke Machine Co. (last meeting attended June 1996)
Jon Petts; Jem Smoke Machine Co, Ltd. (last meeting attended pre-January 1996)
Beverly Huggins; SFX Design, Inc. (last meeting attended pre-January 1996)
Jeffrey Lind; Walt Disney Imagineering (last meeting attended pre-January 1996)

3 Approval of minutes from the previous meeting

Bill Hektner moved that the minutes of the January 1998 meeting be approved as written. Eric Tishman seconded. Unanimous by show of hands.

4 Approval of Agenda

Bill Hektner moved that the draft agenda be accepted. Brad Dittmer seconded. Unanimous by show of hands.

5 Call for patents:

"ESTA intends to publish no standard that contains protected intellectual property, unless that property can be licensed by anyone for a reasonable fee. ESTA uses a process of open patent disclosures to implement this intent. ESTA does not conduct patent searches and does not warrant that its standards contain no protected intellectual property.

"In keeping with the open disclosure policy, I ask if anyone present wishes to notify the working group of the existence of a patent or copyright that might protect material in a standard being developed by the working group. You need not be the holder of the patent or copyright in order to notify the working group of its existence. "

6 Anti-Trust Statement

"The ESTA Board of Directors, the Technical Standards Committee, and the leadership of this Working Group will reject or nullify any actions that restrain trade. Anyone who feels that an action restraining trade is being or has been taken is requested to bring the matter to the attention of the chair immediately. Anyone who feels that actions in restraint of trade have been taken and not properly annulled is requested to notify the TSC chair or ESTA president immediately."

"ESTA legal counsel has informed us that any member of this working group may be found individually liable for any action that restrains trade taken by this working group. An individual convicted of a violation of the Sherman Act may be fined as much as \$100,000 and be imprisoned for up to three years. An easy to read pamphlet describing restraint of trade is available from the Technical Standards Committee."

7 Task Group Reports

7.1 Fog standard E1.5 (Tishman, Segeren, Hektner, Dittmer)

Two votes for "reject" with negative comments had been received on the letter ballot to send BSR E1.5 to public review. (See the "Summary of Ballot (F&S/98-3003) to Send E1.5 to First Public Review," document number F&S/98-3005.) As per our procedure, the working group needed to consider these comments and try to resolve them, and needed to give people a chance to change their votes in light of the comments.

Marc Gingras had commented in the ballot, "The standard of 10 mg cubic meter should be lowered to 5 mg. Also since there is no control on what volume of water is mixed with the dihydric and trihydric alcohols impossible to agree on what is safe or not. Also coloring agents and scents are a health risk."

He explained that if 10 mg/m³ is the concentration most often set as a limit by occupational safety and health authorities, we should be even safer, and suggested half that concentration. After it was pointed out in discussion that no ill effects have been demonstrated with concentrations above 10mg/m³ and that 10mg/m³ was marginal for making a useful fog, Gingras agreed he would withdraw his negative vote.

Bill Hektner explained that he had not voted at all because he was afraid that 10mg/m³ was too low a level.

Florian von Hofen voted to reject the motion to send BSR E1.5 to public review, stating, "However, we vote against giving this standard into public review already. The reason is that we are afraid that it will not be very good for the reputation of the whole fog industry if we might have to raise the concentration value 10 or 20 times after having finished our discussion."

Florian von Hofen was not present to explain his comment, but Günther Schaidt was. Schaidt argued that useful fogs, definitely in the initial burst from the machine and probably over any period in which a "smoke" effect is used in a theatrical production, are many times more dense than 10mg/m³. According to Schaidt, while it might be argued that a fog's time-weighted-average concentration over an eight-hour day might be as low as 10mg/m³, no practical fog effect was going to be this low, and that 10mg/m³ was far lower than what could be considered the upper limit of a "safe" level. He stated that he had worked for hours in concentrations of hundreds of mg/m³ with no ill effects. It was pointless to draft a standard that would not explicitly allow the creation of useful fog effects, particularly when there was no evidence that anyone would be healthier because of it.

In discussion the group arrived at a consensus on the following points:

- 10mg/m³ is a useful level for a haze, but it is too light for any practical fog effect. However, it is a reasonable exposure level as a TWA over an eight-hour day.
- It would be useful to set a higher level for short terms, either as an STEL or a maximum exposure limit, specifically to allow for fog effects and the initial discharge from the machine.
- Systemic toxicity of the glycols at any reasonable fog level well up into concentrations over 100 mg/m³ is not an issue because the fog chemicals called out in the draft standard do not exhibit any systemic toxicity until extremely high levels are reached, far higher than would be desirable for any practical fog. However, the working group felt they had not addressed possible transitory irritation effects in the draft standard. The working group at this time does not know if transitory irritation effects with fog exist or don't exist, but felt that the possibility of their existence is a concern. While it is most important to not injure performers, it is also important not to have fogs that might make it difficult for workers to perform on stage. Drafting an STEL or

maximum exposure limit will require studying and addressing the possibility of transitory irritation effects.

Per the P&P, members of the working group had to have an opportunity to change their votes on the motion to send BSR E1.5 to public review. Bill Hektner moved that we have a roll call ballot. Jim Gill seconded. Karl Ruling called the roll of those present.

Question: "Do you accept the motion to send the draft American National Standard E1.5, Entertainment Technology — Theatrical Fog Made With Aqueous Solutions Of Di- And Trihydric Alcohols (F&S/97-3017r3), to first public review?"

Name	Company	Voting status	Vote
Murray Gellatly	A.C. Lighting Ltd.	Principal	Reject
Brad Dittmer	Associated Theatrical Contractors	Principal	Reject
F. Lee Iwanski	Four Star Lighting	Principal	Reject
Mike Wood	High End Systems	Principal	Reject
Larry Schoeneman	Interesting Products, Inc.	Principal	Reject
Adrian Segeren	Le Maitre Special Effects	Principal	Reject
Marc Gingras	MDG Fog Generators	Principal	Reject
Jim Gill	Reel FX	Principal	Reject
Eric Tishman	Rosco Laboratories	Principal	Reject
Bill Hektner	USITT Health & Safety Commissioner	Principal	Reject
Günther Schaidt	VPLT (Safex Chemie)	Alternate	Reject

Final tally: 7 "Accept," 11 "Reject," from a total of 21 possible votes. Motion failed.

It was the consensus of the group that we need to know more. The task group shall contact NIOSH about metal-working fluids and the FAA about glycols as de-icing agents. Larry Schoeneman shall proceed with the project to get the CMA involved in our glycol fog standard. The working group will not attempt to rewrite the standard by the next meeting.

7.2 Fog machine instruction manual standard (Gellatly)

Murray Gellatly presented the report (F&S/98-3007) that he had faxed to members of the working group describing what he had found after surveying manufacturer's literature and manuals, and listing his recommendations for their improvement.

Gellatly's report on material safety data sheets generated the most discussion. There was wide disagreement among the working group as to what it was prudent for a manufacturer to reveal on MSDS's and as to how practical it was to keep the sheets absolutely current.

Gellatly's mockup of a laminated instruction/warning tag to be affixed to fog machines was well received. The colorful tag essentially states the "Basic Fog Use Guidelines" found in the Introduction to Modern Atmospheric Effects, and is designed to be attached like a luggage tag to a fog machine.

Bill Hektner moved that the working group accept Murray Gellatly's report. Jim Gill seconded. Unanimous show of hands.

Schoeneman charged Brad Dittmer and Lee Iwanski with developing recommendations for fog machine manuals and to report back to the working group with these recommendations in bullet form.

7.3 CMA invitation project (Schoeneman, Segeren)

Discussion of project tabled for this meeting. We need to get a better idea of what further research needs to be done, so we can ask for specific help from the CMA.

7.4 Phog Photos (Wood)

Mike Wood did not have more photos to show the group at this meeting, but said that he will work some more on developing a simple optical tool for measuring fog density, either in relative or absolute terms. Most promising are graphs based on the test chart shown at the last meeting. Wood found that photographs of fog are highly dependent on the lighting. Wood said he would have more to show at the July meeting.

7.5 Intro to Fog Book III (Hektner)

No report for this meeting. Report promised for the next meeting.

8 Liaison Reports

9.1 PLASA (Douglas-Beveridge)

No report.

9.2 JATET (Schoeneman)

No report.

9.3 VPLT (von Hofen)

No report.

9.4 Labor Unions (Fails)

No report.

9.5 Report on NFPA meeting (Schoeneman)

Larry is now a member of the NFPA Technical Committee on Special Effects representing the Entertainment Services and Technology Association. This committee deals with special effects. The Committee has just completed the NFPA 160 Code for Flame Special Effects, so 1998 promises to be a fairly quiet year.

10 New business

Bill Hektner reported that he was contacted by David Diamond a few days ago and asked to attend an luncheon in New York City on March 31, the theme of this luncheon to be fog. Diamond is now working with the Stage Directors and Choreographers Foundation, and this luncheon meeting will involve representatives from SSDC, USA 829, the musicians union, and Actors Equity. Hektner was asked to attend as the Health and Safety Commissioner of USITT. He declined but said that someone from ESTA should go, someone in the New York area.

It was decided that Karl Ruling and Gary Fails should attend. Karl to make the call. SDCF number: 212-302-5359

11 Other business

None.

12 Schedule for future meetings

The following meeting time was announced:

Saturday afternoon, July 11, 1:00 p.m.***
Clarion International at O'Hare Airport
6810 N. Mannheim Rd.
Rosemont, IL 60018
847-297-8464
Fax 847-297-8744

*** NOTE: The meeting time has been rescheduled due to a time conflict. It is now set for 7:00 p.m., same day, same place.

13 Adjournment

Bill Hektner moved to adjourn. Eric Tishman seconded. Adjourned at 9:50 p.m