

**Minutes**  
**Fog and Smoke Working Group**  
14 July 2001  
Dallas/Ft. Worth Airport Marriott  
Irving, Texas

**Chairperson:** M. Brad Dittmer; Downhome Productions; principal; user

**Recording secretary:** Karl G. Ruling, ESTA

**Members attending:** Marc Gingras; MDG Fog Generators Ltd.; principal; producer  
Adrian Segeren; Le Maitre Special Effects; principal; producer  
Bill Hektner; USITT ; principal; gen. interest  
Mike Wood; High End Systems Inc.; principal; producer  
Kent H. Jorgensen; MPS Grips, Local 80; observer; gen. interest  
Edwin S. Kramer; I.A.T.S.E. Local 1; principal; user  
Patrick Boyd; Jauchem & Meeh, Inc.; observer; user  
Mark Elliott; The Walt Disney Company; observer; user (joined at this meeting)

**Visitors:** Keith Sklar, Actors' Equity Association  
Ken Greenwood, Actors' Equity Association

**1 Opening remarks**

Brad Dittmer called the meeting to order at 19:10 and welcomed all to Irving.

**2 Attendance and membership**

A screaming yellow attendance sheet was circulated and those in attendance were asked by Karl Ruling to sign in.

**2.1 Introductions of those present**

Dittmer asked the members of the assembly to introduce themselves, which they did, proceeding clockwise around the hollow-square table.

**2.2 Determination of quorum**

Dittmer counted five voting members present at this point in the meeting, and announced that we have a quorum.

**2.3 Recognition of alternate voting members**

No alternates were present so there were none to recognize.

**2.4 Requirements for membership**

Dittmer reminded voting members that, except for organizational members, a member's voting status will be changed to observer if he and his alternate miss two consecutive meetings, pending that member's attendance at another meeting.

**2.5 Processing of new membership applications**

Douglas Franz had applied as an observer for QVC Network in the user interest category.  
Mark Elliot had applied as an observer for the Walt Disney Company in the user category

Bill Hektner moved that the applications be accepted. The motion was seconded. The motion was approved by a unanimous show of hands.

## 2.6 Processing of changes to observer status

Ruling noted that the following voting members, by not attending this meeting, had now missed three consecutive meetings. Dittmer stated that per our attendance rules they had become observer members:

Gary Fails; City Theatrical, Inc.  
 Jim Gill; Reel EFX  
 Martin Becker; Reel EFX, Inc.

The full consensus body during this meeting was thus:

Name	Company	Representing	Voting status	Int. category
Murray Gellatly	A.C. Lighting Ltd.	A.C. Lighting Ltd.	P	G
M. Brad Dittmer	Downhome Productions – Springfield, MO	Downhome Productions	P	U
Mike Wood	High End Systems Inc.	High End Systems Inc.	P	P
Lowell Fowler	High End Systems Inc.	High End Systems Inc.	A	P
Byron Ziegler	High End Systems Inc.	High End Systems Inc.	A	P
Edwin S. Kramer	IATSE, Local 1	I.A.T.S.E. Local 1	P	U
Larry Schoeneman	Interesting Products, Inc.	Interesting Products, Inc.	P	P
Adrian Segeren	Le Maitre Special Effects	Le Maitre Special Effects	P	P
Marc Gingras	MDG Fog Generators Ltd.	MDG Fog Generators Ltd.	P	P
Martin Michaud	MDG Fog Generators Ltd.	MDG Fog Generators Ltd.	A	P
Tim Cox	PLASA	PLASA	P	G
Tony Douglas-Beveridge	PLASA	PLASA	A	G
Eric Tishman	Rosco Laboratories	Rosco Laboratories	P	P
Dan Faulkner	Rosco/Entertainment Technology	Rosco Laboratories	A	P
Bill Hektner	USITT	USITT	P	G
Florian von Hofen	VPLT	VPLT	P	G
Eckart Steffens	SOUNDLIGHT	VPLT	A	G
Gunther Schaidt	Safex Chemie	VPLT	A	G
			11 votes	5 P 2 U 4 G

## 3 Approval of minutes from the previous meeting

Bill Hektner moved that the minutes of the March meeting be accepted as written. The motion was seconded. The motion was accepted unanimously by a show of hands.

## 4 Approval of agenda

Hektner moved that the draft agenda be accepted. The motion was seconded. The motion was accepted unanimously by a show of hands.

## 5 Call for patents:

Brad Dittmer read the following statement aloud to the assembly:

"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. "

No intellectual property issues were brought to the attention of the chairperson.

## **6 Anti-Trust Statement**

Brad Dittmer read the following statement aloud:

"The ESTA Board of Directors, the Technical Standards Committee, and the leadership of this working group will reject or nullify any actions that unlawfully restrain trade. Anyone who feels that such an action is being or has been taken is requested to bring that 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 violations of the anti-trust laws can have serious consequences. Individuals engaged in certain unlawful conduct can be found criminally liable. An individual convicted of a criminal violation of the Sherman Act may be fined as much as \$100,000 and imprisoned for up to three years. An easy to read pamphlet describing restraint of trade issues is available from the Technical Standards Manager."

Karl Ruling, the Technical Standards Manager, waved some copies of the easy-to-read pamphlet in the air to show that copies were immediately available.

No anti-trust issues were brought to the attention of the chairperson.

## **7 Task Group and Committee Reports**

### **7.1TSC**

#### **7.1.1 Publishing**

Ruling reported that there had been a discussion at the TSC meeting of developing a standardized policy toward publishing standards on paper or on the Web. It had been decided that the TSC chair and ESTA president, in consultation with the ESTA staff, shall decide on a case by case basis how TSP documents shall be published, with a prejudice toward Web publication. Ruling said that he would ask the working group for its advice what would be the appropriate method of distribution, since the working group would probably have a good sense of the potential market for a document.

#### **7.1.2 Meetings**

Ruling reported that there had been some problems with meetings being moved – particularly task group meetings -- and proper notice not being given. Therefore, the TSP has adopted a policy about meeting notices. Ruling read the motion passed at the 13 July 2001 TSC meeting in this regard:

"Ken Vannice moved that the minutes of a working group meeting shall note the scheduling of any task group meetings. If a task group meeting is rescheduled, the task group chairs shall notify the Executive Director and Technical Standards Manager and the all members of the working group. Vannice's motion was seconded. It was accepted unanimously by a show of hands."

Ruling stated that he will note the task group meetings as part of the minutes for this meeting, and that any changes will have to be made in accord with this statement of policy from the TSC.

### **7.2Fog standard E1.5**

#### **7.2.1 ACGIH response**

Karl Ruling reported that his requests apparently have fallen on deaf ears or been laid before blind eyes. He had received no response.

### **7.2.2 Equity/League Study**

Ken Greenwood said that he and Keith Sklar were present to answer any questions about the study.

There were some questions about inaccuracies in some of the descriptions of the fog-making technology, but the bulk of the questions and discussion dealt with how broadly the results of the study could be applied and how new fog machines or fluids could be added to the equipment-based guidelines. In this discussion it became clear that:

- a) Greenwood feels that the study and recommended exposure limits only apply to Broadway. The study found very low TWA fog chemical exposure levels on Broadway and no resulting ill-health effects, but those findings may not be representative of what might be the case in other theatres. It may be necessary to ban the use of artificial fogs in non-Broadway theatres for the protection of Equity members.
- b) Greenwood agreed that new fog machines and fog fluids could be added to the equipment-based guidelines if they are tested per the ENVIRON protocol and if they produce a fog that is the same composition as the fogs that were used on Broadway stages during the Equity/League Study. However, new machines and chemicals that do not produce equivalent fogs would have to be tested by a process similar to the Equity/League Study to demonstrate that they are safe for performers.

At the end of the discussion Greenwood and Sklar excused themselves to go to dinner.

### **7.2.3 Moving forward on BSR E1.5**

Ruling had drafted a new version of BSR E1.5, one that uses the ceiling limits recommended by the Equity/League Study as peak exposure limits, and had sent it to the working group before the meeting. Some minor changes to the wording were made to the draft document at the meeting, creating a version 5.

Bill Hektner moved that BSR E1.5 (F&S/1997-3017r5) be sent to public review. The motion was seconded. Ruling stated that, since this is the first public review for the document, the question must be decided by letter ballot.

### **7.3 Data collection task group**

Karl Ruling reported that the people whose business cards had been collected by Bill Hektner at the USITT Conference were all contacted about doing some fog sampling. A few had replied, but most had no productions scheduled for the rest of the academic year. One agreed to do some sampling and a kit was sent to him, but he was so busy with other matters during rehearsals that he hadn't done any.

The group's consensus was that this project can be put on hold. Peak levels seem to be the issue with fog, not TWA levels, and the sampling only determines TWA levels.

### **7.4 Scents**

Martin Becker was not present, so there was no report.

Bill Hektner moved that the scent investigation project be terminated. The motion was seconded. The motion was accepted unanimously, except for one abstention.

## **8 Old Business**

None.

## **9 Liaison Reports**

## 9.1 PLASA

Tim Cox had submitted the following report via e-mail. It was read by Karl Ruling.

Gentlemen,

Please accept my apologies for PLASA's absence from the meeting of the Fog and Smoke Working Group this week.

Reviewing my tasks from the last meeting:

1) I said I'd check any relevant British Standards to see what they say about fog and fire alarm systems.

BS EN 54-1:1996 Fire detection and fire alarm systems - Part 1. Introduction This general introductory part of the EN 54 series (applied to comply with the Construction Products Directive in the EU) is completely general and contains little more than a set of definitions. There is nothing of special interest for theatrical fog in places of entertainment.

BS 5839-1:1988 Fire detection and alarm systems for buildings. Code of practice for system design, installation and servicing Clause 11 discusses the types of fire detector - heat detectors, smoke detectors and flame detectors. It recognises that the best installation will vary for each individual premises, but that often a combination of detectors provides the best protection. "Where there are production or other processes that produce smoke, fumes, dust, etc., which might operate smoke detectors, an alternative type of detector should be used, i.e. heat or flame." There is also advice on positioning.

BS 5839-5:1988 Fire detection and alarm systems for buildings. Specification for optical beam smoke detectors  
This is a specification for optical beam detectors and doesn't cover their application.

BS 5839-8:1998 Fire detection and alarm systems for buildings. Code of practice for the design, installation and servicing of voice alarm systems This deals with the alarm signal side of systems, rather than the detection side. There is nothing about detection.

PD 6531:1997 Queries and interpretations on BS 5839:Parts 1 and 4 (as amended)  
This BSI Published Document (not a standard) answers common questions about the interpretation of parts of the fire alarm standard, BS 5839. There is nothing about smoke detectors in entertainment premises.

BS 5588-6:1991 Fire precautions in the design, construction and use of buildings. Code of practice for places of assembly Most of this standard covers the construction and layout requirements for places of assembly, including theatres. It includes requirements for things like fire-resisting doors and smoke control for firefighting. There are clauses about fire detection and alarm systems, but no special mention of theatrical fog. Much of the guidance refers to BS 5839-1.

Technical Standards for Places of Entertainment was recently published by the District Surveyors' Association and the Association of British Theatre Technicians.

This states (H.11):

"Where smoke detectors may be activated by special effects provided as part of the entertainment, provision should be made to enable the detectors in the affected area only to be isolated in order to prevent false alarms.

Note: The isolation of the detectors should preferably be controlled from the control position for the entertainment. The isolation of any detector should be indicated on the fire alarm control panel. On no account should it be necessary to isolate the whole system to enable a special effect to be used. The detectors should automatically return to service after a time lapse sufficient to ensure that any residual fumes have cleared."

This technique is in common practice in the UK. It's simple enough for a responsible person (with a key for the fire panel) to isolate a few zones before fog or pyrotechnics are used. The panel keeps beeping until after the show, when the responsible person reactivates those zones.

The inclusion of this wording implies that is generally acceptable to the District Surveyors Association, whose members are enforcing local authority entertainment licences.

Really, except for the last document, these are all fire precautions or fire alarm standards. If we want to start a project to write about fire alarms and atmospheric effects, we should be careful to not start writing about fire alarm systems. That subject is well covered already. However, if we can interpret fire alarm standards to suggest best application of those standards in places where fog will be used, that document would have value (particularly for theatre consultants and system specifiers).

2) I also said I'd try to track down a contact in the fire equipment business with whom a theatre consultant I know had been discussing this issue, to talk to him. I have failed to do this.

I've read the material that US Actors Equity made available about their fog study on their website and we wrote a summary for our Standards News. I also called the UK Equity PR office to ask whether they would be applying the exposure limits as standard in their contracts from now on, but the chap I spoke to hadn't heard of the study! He was going to get back to me, but I've heard nothing since. I don't want to hassle them on this.

In addition to the above, I am happy to report no new controversy about theatrical fog in the UK.

#### **9.2VPLT - Von Hofen or Steffens**

No report.

#### **9.4The Kramer and Fails Report**

No report. Fails had not attended the meeting, and Kramer, by this time in the meeting, had left to attend a Certification meeting.

#### **9.5NFPA**

No report.

#### **10 New business**

### **10.1 Dust effects**

Kent Jorgensen reported on the use of fuller's earth as an atmospheric effect. He reported that Hollywood effects technicians have found that fuller's earth is fairly inert, but he also noted that a lot of stuff that is not fuller's earth is being used. Paint pigments are being added and fuller's earth is often contaminated with silica. Jorgensen reported that some people are also using flour and ground walnut shells for atmospheric effects. Jorgensen suggested that the use of dust is an area in which we might want to set standards in the future.

Kent Jorgensen was asked if he would be willing to head a task group for a standard. He said yes.

### **10.2 UBC/SHAPE study**

Mark Elliott presented the July/August 2001 edition of the SHAPE Newsletter, which reports on the Actors' Equity/League study. He said that the University of British Columbia and SHAPE are gathering data, but he doesn't think they have a clear idea of what they will do with that data.

Kent Jorgensen said that the Canadian film industry has recently had an actor death (not fog related), so they are ratcheting up their efforts on health and safety.

### **11 Other business**

None.

### **12 Schedule for future meetings**

Karl Ruling announced that the next F&S Working Group meeting is scheduled for Saturday, 3 November 2001, 18:30 - 23:00, at the Rosen Centre Hotel (9840 International Dr., Orlando, Florida) near the Orange County Convention Center.

The following meeting will be Friday, 15 February 2002, 19:00 - 23:00, at the Hyatt Regency New Orleans at the Louisiana Superdome (500 Poydras Plaza, New Orleans).

The following meeting will be held on the weekend of May 3-5, 2002, exact time and day to be determined.

### **13 Adjournment**

Bill Hektner moved that the meeting adjourn. The motion was seconded. The motion was approved unanimously by a show of hands. Brad Dittmer declared the meeting adjourned at 21:20.



### Fog & Smoke Working Group Membership at the End of the 14 July 2001 Meeting

Name	Company	Representing	Vote status	Int. cat.
Murray Gellatly	A.C. Lighting Ltd.	A.C. Lighting Ltd.	P	G
Patrick O'Rourke	Big Apple Lights	Big Apple Lights	O	U
Gary Crawford	C.I.T.C.	C.I.T.C.	O	P
Gary Fails	City Theatrical, Inc.	City Theatrical, Inc.	O	P
M. Brad Dittmer	Downhome Productions	Downhome Productions	P	U
Norman Wright	Group One	Group One	O	P
Mike Wood	High End Systems Inc.	High End Systems Inc.	P	P
Lowell Fowler	High End Systems Inc.	High End Systems Inc.	A	P
Byron Ziegler	High End Systems Inc.	High End Systems Inc.	A	P
Edwin S. Kramer	IATSE, Local 1	I.A.T.S.E. Local 1	P	U
Larry Schoeneman	Interesting Products, Inc.	Interesting Products, Inc.	P	P
Jack Suesse	J.R. Clancy, Inc.	J.R. Clancy, Inc.	O	G
Greg Meeh	Jauchem & Meeh, Inc.	Jauchem & Meeh, Inc.	O	U
Patrick Boyd	Jauchem & Meeh, Inc.	Jauchem & Meeh, Inc.	O	U
Adrian Segeren	Le Maitre Special Effects	Le Maitre Special Effects	P	P
Jon Petts	Jem Smoke Machine Co, Ltd.	Martin Professional A/S	O	P
Marc Gingras	MDG Fog Generators Ltd.	MDG Fog Generators Ltd.	P	P
Martin Michaud	MDG Fog Generators Ltd.	MDG Fog Generators Ltd.	A	P
Monona Rossol	Monona Rossol	Monona Rossol	O	G
Kent H. Jorgensen	MPS Grips, Local 80	MPS Grips, Local 80	O	G
Tony Douglas-Beveridge	PLASA	PLASA	A	G
Tim Cox	PLASA	PLASA	P	G
Robert Barbagallo	Proximo Inc.	Proximo Inc.	O	U

Name	Company	Representing	Vote status	Int. cat.
Douglas Franz	QVC Network	QVC Network	O	U
Jim Gill	Reel EFX, Inc.	Reel EFX	O	P
Martin Becker	Reel EFX, Inc.	Reel EFX	O	P
Eric Tishman	Rosco Laboratories	Rosco Laboratories	P	P
Dan Faulkner	Rosco/Entertainment Technology	Rosco Laboratories	A	P
Heinz Siller	RST Präsentations-systeme	RST Präsentations-systeme	O	G
Beverly Huggins	SFX Design, Inc.	SFX Design, Inc.	O	P
Nathan Kahn	Theatre Effects, Inc.	Theatre Effects, Inc.	O	P
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	O	G
Thomas Costello	TJC and Associates	TJC and Associates	O	G
Colin Waters	TMB Associates	TMB Associates	O	G
James F. Foley	UCISCO, Inc.	UCISCO, Inc.	O	P
Bill Hektner	USITT	USITT	P	G
Florian von Hofen	VPLT	VPLT	P	G
Eckart Steffens	SOUNDLIGHT	VPLT	A	G
Gunther Schaidt	Safex Chemie	VPLT	A	G
Mark Elliott	The Walt Disney Company	The Walt Disney Company	O	U
Michael Zilz	Zilz International GmbH	Zilz International GmbH	O	G
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#### Voting Status

- P Principal voting representative for a company or organization
- A Alternate voting representative for a company or organization
- I Individual representing no organization other than himself or herself
- O Observer; non-voting

#### Interest Categories

- P Producer (manufacturer) of fog or smoke effects
- U User of fog or smoke effects
- G General interest