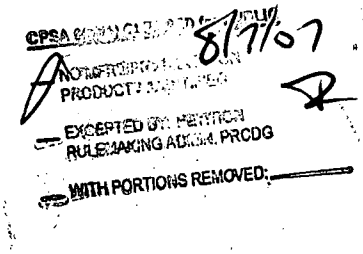

LOG OF MEETING

DIRECTORATE FOR ENGINEERING SCIENCES

SUBJECT: UL 217 STP

DATE OF MEETING: June 21, 2007

DATE OF LOG ENTRY: August 3, 2007

SOURCE OF LOG ENTRY: Arthur Lee, ESEE

LOCATION: Hilton in Chicago, IL

CPSC ATTENDEES: Arthur Lee.

NON-CPSC ATTENDEES: See page 2, UL meeting log.

SUMMARY OF MEETING: See page 2 for UL meeting log. CPSC staff has agreed to participate on two task groups. Task Group 1 - TASK GROUP FOR SMOKE TEST PROFILES. The objectives of the task group is to improve response to non-specific fire alarms without increase in false alarms and establish acceptable repeatability. Task Group 4 – TASK GROUP FOR MARKINGS AND INSTRUCTIONS REGARDING SELECTION AND INSTALLATION OF PHOTO AND ION DETECTORS. The objective of the task group is to avoid nuisance alarms. Assist the consumer with proper selection at purchase. Provide instructions for proper installation. Review all requirements in existing standard to avoid conflicts/duplication. Avoid code conflicts (the proposed 20 foot language would result in code conflict in some residential construction based on floor plan.) Refine language describing cooking appliance vs kitchen.

Subject 217 (268, 268A)

July 13, 2007

SUMMARY OF TOPICS

The following topics were discussed at the meeting:

1. Smoke Characterization Study

2. UL 217 Proposals – a) Use of Voice Message in Alarm Signal; b) Revised Descriptions of Smoke Box Air Circulation Fans; c) Additional Details of Jarring Test; and d) Packaging Marking Regarding Nuisance Alarms; e) Updated NFPA 72/11 Text References in Installation Instructions; f) Instructions on Nuisance Alarms; g) Revised Information Regarding Situations Where Smoke Alarms May Not Be Effective; h) Information Regarding Relative Performance of Ionization and Photoelectric Smoke Detectors, and i) Removal of Inaccurate Information in Section 65.2.1

3. UL 268 Proposals – a) Requirements Covering Aerosol Test Spray; b) Revised Descriptions of Smoke Box Air Circulation Fans; c) Removal of Inaccurate Information in Section 66.2; and d) Additional Installation Instruction Requirements for Projected Beam Type Smoke Detectors

4. Additional UL 217 Discussion Items

5. Update on Harmonization of ANSI/UL 268 & SCC/ULC-S529

6. Task Group Reports

7. Additional Agenda Item, UL 217 Proposal Requests – a) Silencing for Recreational RV's and Boats; b) Battery Operating Temperature Range - RV Smoke Alarms; c) Battery Operating Temperature Range - Marine Smoke Alarms

8. Additional Agenda Item, UL 268 Proposal Request – Extended Temperature Range Testing

A meeting of the Standards Technical Panel of UL for Smoke Detectors and Alarms, STP 217, was held on June 21, 2007 at the Northbrook Hilton in Northbrook, IL. The purpose of the meeting was to discuss proposals and issues concerning UL 217, UL 268 and UL 268A.

The purpose of the STP meeting report is to briefly summarize discussions held during the meeting, and to document any resulting outcomes, including planned future action.

CALL TO ORDER, ANNOUNCEMENTS, INTRODUCTION OF MEMBERS, GUESTS, AND OBSERVERS

Dan Ryan, the Chair of the STP, called the meeting to order at 8:30 am. The Chair introduced himself, welcomed all meeting attendees and requested that the attendees introduce themselves.

The STP Chair reviewed the STP meeting process, agenda items, and requested additional agenda items that would be discussed during the meeting. The STP Chair also briefly discussed the STP process and ANSI's Essential Requirements, the handling of proposal requests, and expectations of an STP member: attendance at STP meetings (not required), and the STP member's responsibility to vote on all proposals set forth in UL's Collaborative Standards Development System (CSDS).

ANNOUNCEMENTS AND REPORTS FROM THE STP PROJECT MANAGER

Linda Phinney, substitute Project Manager for Paul Lloret, distributed UL's Patent Policy. The patent policy is available on the Standards STP Internet site at http://ulstandardsinfonet.ul.com/stp/patentpolicy.html. Comments or questions regarding the patent policy can be directed to Don Snyder at Donald.E.Snyder@us.ul.com.

The current balance of the STP was discussed at the meeting and is shown in the following table:

Interest Category	Number of Members	Interest Category	Number of Members
Producers	11	Government	1
Testing & Standards Organizations	5	Consumer	2
Supply Chain	0	General Interest	8
AHJs	8	Commercial/Industrial User	0

UL's goal is to have no interest category comprise more than one-third of the STP membership. As such, UL is currently looking for participants in the Supply Chain, Commercial/Industrial User, and Consumer interest categories for this STP. If you know of potential candidates in these interest categories, please contact the STP Project Manager. Definitions of the interest category classifications are available on the Standards STP Internet site, located at http://ulstandardsinfonet.ul.com/stp/index.html.

FUTURE MEETING SCHEDULE

A future meeting of STP 217 was not discussed. Under UL's standards development process, STP meetings are called by the STP Chair when the Chair determines that submitted proposals and/or discussion issues warrant a meeting of the panel. Stakeholders are encouraged to contact the chair if they have questions or suggestions regarding future STP meetings.

1. Smoke Characterization Study

DISCUSSION

The Smoke Characterization Project, a study by Tom Fabian, Ph.D, Pravinray Gandhi, P.E., Ph.D, Paul Patty, P.E. and Tom Chapin, Ph.D all of UL, was presented by Paul Patty. The project studied 27 synthetic and natural materials, and various combinations of materials now more commonly found in modern residences. The goal of the project was to characterize the different materials used in modern residential settings and their effect on fire behavior in homes.

The scope of the project was to develop smoke characterization analytical test protocol using flaming and non-flaming modes of combustion, and to develop smoke particle size distribution data and smoke profiles in the UL smoke detector room for materials commonly found in residential settings for both flaming and non-flaming modes of combustion.

The objective of the project was to: A) Provide data and analysis to the alarm/detector/additive industries for several possible initiatives: To provide data for the development of new smoke sensing technology; B) Develop recommendations to the current residential smoke detector standard (ANSI/UL 217); and C) Provide data to facilitate new smoke suppression technologies and improved end products.

A copy of the Smoke Characterization Project presentation is included as supporting documentation in the meeting work area. From the meeting home page, click on "View Supporting Documentation" under "Actions" on the left side of the screen. Then click on the magnifying glass next to "Smoke Characterization Project" to view the presentation.

STP meeting attendees supported undertaking a task group to develop and advance proposals as advocated by the study conclusions and by the agenda discussion items submitted by Jay Fleming (See Topic 4, Items B and C). The Task Group on Smoke Test Profiles was formed at the meeting.

2. UL 217 Proposals – a) Use of Voice Message in Alarm Signal; b) Revised Descriptions of Smoke Box Air Circulation Fans; c) Additional Details of Jarring Test; and d) Packaging Marking Regarding Nuisance Alarms; e) Updated NFPA 72/11 Text References in Installation Instructions; f) Instructions on Nuisance Alarms; g) Revised Information Regarding Situations Where Smoke Alarms May Not Be Effective; h) Information Regarding Relative Performance of Ionization and Photoelectric Smoke Detectors, and i) Removal of Inaccurate Information in Section 65.2.1

DISCUSSION

a) Use of Voice Message in Alarm Signal, submitted by John Parssinen, UL – 34.3.2 and 34.3.2a) edited for clarity. 34.3.2b) returned to John for revision.

The STP members generally agreed with the proposals in this item. Upon revision of 34.3.2b), the proposals will be advanced to ballot in a CSDS work area in the near future.

b) Revised Descriptions of Smoke Box Air Circulation Fans, submitted by John Parssinen, UL – 37.3.3c) edited to remove the reference to the DC power supply.

The STP members generally agreed with the proposals in this item, therefore, the proposals will be advanced to ballot in a CSDS work area in the near future.

c) Additional Details of Jarring Test Alarms, submitted by John Parssinen, UL – The proposal has been returned to John Parssinen, who will re-work the proposal with Tom McNelis to include additional details regarding the mounting test of specimens. Once the proposal is re-submitted, it will be advanced to ballot in a CSDS work area.

d) Packaging Marking Regarding Nuisance, submitted by Jay Fleming, Boston Fire Department – This item has been assigned to the Task Group for Markings and Instructions Regarding Selection and Installation of Photo and Ion Detectors for review and further development.

e) Updated NFPA 72/11 Text References in Installation Instructions, submitted by John Parssinen, UL. The proposal was updated at the STP meeting to reflect the current edition of the National Fire Alarm Code. The revised proposal will be advanced to ballot in a CSDS work area in the near future.

f) Instructions on Nuisance Alarms, submitted by Jay Fleming, Boston Fire Department. This item has been assigned to the Task Group for Markings and Instructions Regarding Selection and Installation of Photo and Ion Detectors for review and further development.

g) Revised Information Regarding Situations Where Smoke Alarms May Not Be Effective, submitted by Jay Fleming, Boston Fire Department. 94.1e) was revised to allow the manufacturer to determine the situations where the smoke alarm may not be effective and revise markings accordingly. The revised proposal will be advanced to ballot in a CSDS work area in the near future.

h) Information Regarding Relative Performance of Ionization and Photoelectric Smoke Detectors, submitted by Jay Fleming, Boston Fire Department. The language in 94.1g) should be obvious to the consumer, so this item has been assigned to the Task Group for Markings and Instructions Regarding Selection and Installation of Photo and Ion Detectors for review and further development. The task group was additionally charged with reviewing consistence of messaging between UL 217 and the National Fire Alarm Code prior to submitting proposed revisions.

i) An additional revision to 65.2.1 in UL 217 was proposed by Tom McNelis, ETL Semko, based on the proposed change to UL 268, 66.2.1 (in Item 3c, below). Tom noted that UL 217 and UL 268 should be consistent with the test methodology.

PROPOSAL

65.2.1 The sound power output of the alarm shall be measured in a reverberation room using procedures outlined in ANSI Standards S12.31 (Precision Methods for the Determination of Sound Power Levels of Broad-Band Noise Sources in Reverberation Rooms) or S12.32 (Precision Methods for the Determination of Sound Power Levels of Discrete Frequency and Narrow Band Noise Sources in Reverberation Rooms). The sound power in each 1/3 octave band shall be determined using the comparison method. The A-weighing factor shall be added to each 1/3 octave band. The total power is to be determined on the basis of actual power. The total power is then to be converted to an equivalent sound pressure level for a radius or 10 feet (3.05 m). ~~An additional 6db is to be added to allow for two reflecting planes.~~

The STP members generally agreed with the proposal and it will be advanced to ballot in a CSDS work area in the near future.

3. UL 268 Proposals – a) Requirements Covering Aerosol Test Spray; b) Revised Descriptions of Smoke Box Air Circulation Fans; c) Removal of Inaccurate Information in Section 66.2; and d) Additional Installation Instruction Requirements for Projected Beam Type Smoke Detectors

DISCUSSION

a) Requirements Covering Aerosol Test Spray, submitted by John Parssinen, UL – Proposed new Section 28.7 will be forwarded to the Task Group for Aerosol Test Sprays for further development.

b) Revised Descriptions of Smoke Box Air Circulation Fans, submitted by John Parssinen, UL – The STP members generally agreed with the proposed changes to 31.4.3, with a minor change to the laminar air flow. The revised proposal will be advanced in the standards process following conclusion of the current round of activity involving the publication of a new binational standard (ANSI/UL 268, SCC/ULC S529).

c) Removal of Inaccurate Information in Section 66.2, submitted by John Parssinen, UL – The STP members generally agreed with the proposed change to 66.2.1. The proposal will be advanced in the standards process following conclusion of the current round of activity involving the publication of a new binational standard (ANSI/UL 268, SCC/ULC S529).

d) Additional Installation Instruction Requirements for Projected Beam Type Smoke Detectors, submitted by John Parssinen, UL – The STP members generally agreed with the proposed change to 76.1.8, with a change from "blockage" to "obstruction" for clarity. The proposal will be advanced in the standards process following conclusion of the current round of activity involving the publication of a new binational standard (ANSI/UL 268, SCC/ULC S529).

4. Additional UL 217 Discussion Items

DISCUSSION

4A) Concerns With Smoke Test Aerosols, discussion item submitted by Vic Humm, Vic Humm & Associates. This item was discussed in conjunction with the proposal on Smoke Test Aerosols, and the issues raised in this discussion item have been assigned to the new Task Group on Aerosol Test Sprays.

4B) Addition of Smoldering Test to UL 217, discussion item submitted by Jay Fleming, Boston Fire Department. This item was discussed in conjunction with the Smoke Characterization Study presentation, and the issues raised in this discussion item have been assigned to the new Task Group on Smoke Test Profiles.

4C) Addition of Smoldering Test (White Pine) to UL 217, discussion item submitted by Jay Fleming, Boston Fire Department. This item was discussed in conjunction with the Smoke Characterization Study presentation, and the issues raised in this discussion item have been assigned to the new Task Group on Smoke Test Profiles.

4D) Concerns With Use of Ionization Detectors Near Kitchens and Bathrooms, discussion item submitted by Jay Fleming, Boston Fire Department. This item has been assigned to the Task Group for Nuisance Alarm Related Markings and Instructions for discussion and development.

5. Update on Harmonization of ANSI/UL 268 & SCC/ULC-S529

DISCUSSION

The STP Chair summarized the formal harmonization process for UL and Canada, and provided an update on the current harmonization project for UL 268 and ULC S529, the Binational Standard for Smoke Detectors. A preliminary review of the standard has been completed and the comments have been forwarded to the Technical Harmonization Committee (THC) for comment resolution and the development of a revised draft.

It is anticipated that a revised document will be advanced in CSDS for review, comment, and ballot by the STP members and review/comment by subscribers to the standard. The proposed standard will concurrently advance through the ULC standards development process. Once the ballot and comment periods are over, if there are comments, the document would be sent back to the THC, or a joint meeting of the UL STP and ULC committee would be conducted for comment resolution.

A re-circulation may occur if comments suggest a revision of the standard document.

Otherwise, upon determination of consensus and a majority vote, the standard would be published as ANSI/UL 268 & SCC/ULC-S529, the Binational Standard for Smoke Detectors.

6. Task Group Reports

DISCUSSION

The following task groups were formed at the STP 217 meeting in Northbrook, IL, on September 21, 2005. Members presented the following updates to the STP on June 21, 2007.

TASK GROUP 1 (DISMISSED AT MEETING)

Objective: Revision to Minimum Capacity for Secondary Power Source

John Parssinen (Task Group Chair)

Mark Dippner

Tom McNelis

Larry Ratzlaff

Jim Roberts

This task group was charged with modifying a previous proposal to extend the minimum secondary power supply capacity to 7 days to provide additional details on specific test requirements. The objective of the task group was met with the publication paragraphs 36.3, 36.3.2, 36.3.3, and 36.3.4 in the new edition of UL 217, dated August 25, 2006. This group has therefore been disbanded.

TASK GROUP 2

Objective: Smoke Detectors for use in Mining Operations

Kevin Hedrick (Task Group Chair)

Jim Milke

Neil Pedersen

This task group was charged with rewriting and submitting in CSDS, previously proposed revisions to the UL 268 standard after researching necessary test criteria. It was reported that there has been some discussion among the task group members regarding the objective. The task group chair has confirmed the group is continuing with their work.

TASK GROUP 3

Objective: New Surge Immunity and Surge Current Tests

John Parssinen (Task Group Chair)

Tom Barakat

Chris Carlson

Tom McNelis

Larry Ratzlaff

Jim Roberts

John Wesenberg

This task group was charged with refining previously proposed Surge Immunity and Surge Current Tests and the possible necessity of revising additional sections of the UL 217 standard to include IEC based sweep frequency requirements, rather than discrete frequency tests currently used. It was reported that there has been some discussion among the task group members regarding the objective. The task group chair has confirmed that the group is continuing with their work.

TASK GROUP 4 (DISMISSED AT MEETING)

Objective: Development of Marine Supplement

John Adey (Task Group Chair)

David Buddingh

David DeHorn

Mark Dippner

Larry Ratzlaff

Jeff Wesnieski

This task group was charged with comparing proposed requirements with those currently in the standard to determine whether or not a supplement to the standard was necessary. After reviewing the requirements, the task group determined that no revisions to the UL 217 standard or the creation of a supplement was necessary. This group has therefore been disbanded.

7. Additional Agenda Item, UL 217 Proposal Requests – a) Silencing for Recreational RV's and Boats; b) Battery Operating Temperature Range - RV Smoke Alarms; c) Battery Operating Temperature Range - Marine Smoke Alarms

a) Silencing for Recreational RV's and Boats

BACKGROUND

Rationale for the proposal submitted by David Buddingh, MTI Industries, Inc.: Smoke Alarms installed in RV's and Boats are in most cases installed within 20 feet of a cooking appliance. HUD requires smoke alarms installed in manufactured housing units that are located within 20 feet of kitchens include a temporary silencing feature or be photoelectric. NPFA 72 section 11.8.3.5.4 also requires a temporary silencing feature or a photoelectric smoke alarm near cooking appliances. Boats and RV's most often have a flat ceiling which allows smoke to travel quickly thru out the interior increasing the likelihood of false alarms and the possible disabling of the smoke alarms by removal of the battery.

HUD § 3280.208 Smoke alarm requirements. To protect both the living area and kitchen space. Manufacturers are encouraged to locate the alarm in the living area remote from the kitchen and cooking appliances. A smoke alarm located within 20 feet horizontally of a cooking appliance must

incorporate a temporary silencing feature or be of a photoelectric type. NFPA 72 11.8.3.5 (4) Smoke alarms and smoke detectors installed within a 6.1-m (20-ft) horizontal path of a cooking appliance shall be equipped with an alarm-silencing means or be of the photoelectric type.

NFPA 72 11.8.3.5 (4) Smoke alarms and smoke detectors installed within a 6.1-m (20-ft) horizontal path of a cooking appliance shall be equipped with an alarm-silencing means or be of the photoelectric type.

DISCUSSION

This item will be proposed for preliminary review in a CSDS work area for UL 217, in the near future.

b) Battery Operating Temperature Range - RV Smoke Alarms

BACKGROUND

Rationale for the proposal submitted by David Buddingh, MTI Industries, Inc. Smoke Alarms installed in RV's are often unmonitored for long periods of time when the RV is not in use or is in storage. This opens the opportunity for the batteries to die without anyone hearing the low battery signal. Smoke Alarms installed in RV's are exposed to extreme temperatures but there is no requirement the battery power source included with the alarm operate at or near those temperatures. The conditioning before temperature testing includes thirty days in air at 66 ±3°C (150 ±6°F), and at least 72 hours at minus 35 ±2°C (minus 17 ±4°F). Actual UL smoke alarm temperature testing is done at 0° C and 49° C. All manufacturers have access to alkaline or lithium batteries which have a longer life and wider operational temperature range than traditional carbon zinc batteries. This proposal would require alarm manufacturers to include a longer life battery without dictating a specific battery technology.

DISCUSSION

This item will be proposed for preliminary review in a CSDS work area for UL 217, in the near future.

c) Battery Operating Temperature Range - Marine Smoke Alarms

BACKGROUND

Rationale for the proposal submitted by David Buddingh, MTI Industries, Inc. Smoke Alarms installed in Boats are often unmonitored for long periods of time when the boat is not in use or is in storage. This opens the opportunity for the batteries to die without anyone hearing the low battery signal. Smoke Alarms installed in boats are expected to work at extreme temperatures but there is no requirement the battery power source included with the alarm also operate at or near those temperatures. The conditioning before temperature testing includes 70 ±2°C (158 ±4°F) for 24 hours and minus 30 ±2°C (minus 22 ±4°F) for 24 hours. All manufacturers have access to alkaline or lithium batteries which have a wider operational temperature range than traditional carbon zinc batteries. This proposal would require alarm manufacturers to include a longer life battery without dictating a specific battery technology.

DISCUSSION

This item will be proposed for preliminary review in a CSDS work area for UL 217, in the near future.

8. Additional Agenda Item, UL 268 Proposal Request – Extended Temperature Range Testing

BACKGROUND

Rationale for the proposal submitted by Neil Pedersen, System Sensor. The purpose of the proposal is to clarify UL 268 testing requirements for product listings with extended temperature ranges outside the standard range of 32°F to 100° F (0°C to 38°C). Section 1.1 of the standard refers to the National, Fire Alarm Code, NFPA 72 as a basis for many of the requirements. The temperature requirements for 'initiating devices' in Section 5.7.1.8 of NFPA 72 are as follows: Unless specifically designed and listed for the expected conditions, smoke detectors shall not be installed if any of the following ambient conditions exist: (1) Temperature below 0°C (32°F) (2) Temperature above 38°C (100°F) Under the allowance of "Unless specifically designed and listed for[mldr]" , UL tests and lists products to temperature ranges outside the 32°F to 100°F (0°C to 38°C) standard range. However, test requirements are developed on a case by case basis. When combined with changes in UL project management, the opportunity exists for variation in the application of the standard. The proposal modifies sections of the standard relating to operating temperature and the extension of that range by adding test definitions and clarification including formulas for the extended test temperature limits based on the product's operating temperature range. The proposed formulas have been used by UL to grant extended temperature listings for product submissions in the past. The proposal formalizes these requirements to ensure consistent application of the standard when the product operating limits go beyond the standard NFPA 72 temperature range. Note: Most formulas in the proposal could be simplified but are presented in a manner that helps demonstrate the relationship of the test limits to the standard temperature range from 32°F to 100°F (0°C to 38°C).

DISCUSSION

This item will be proposed for preliminary review in a CSDS work area in the near future. It will then be forwarded to ballot after the publication of the ANSI/UL 268 & SCC/ULC-S529, the Binational Standard for Smoke Detectors.

New/Updated STP TASK GROUPS

NEW TASK GROUP 1 – TASK GROUP FOR SMOKE TEST PROFILES

Objective: To improve response to non-specific fire alarms without increase in false alarms and establish acceptable repeatability.

Pravinray Gandhi (Task Group Chair)

Greg Austin

Tom Barakat

Brad Barnes

Don Brighenti

Tom Cleary

Mark Dippner

Jay Fleming

Dan Gottuk

Scott Lang

Arthur Lee

Loren Leimer

Tom McNelis

Jim Milke

Jim Mottorn

Bruce Patterson

Larry Ratzlaff

Jim Roberts

Alfred Siu

NEW TASK GROUP 4 – TASK GROUP FOR MARKINGS AND INSTRUCTIONS REGARDING SELECTION AND INSTALLATION OF PHOTO AND ION DETECTORS

Objective: To avoid nuisance alarms. Assist the consumer with proper selection at purchase. Provide instructions for proper installation. Review all requirements in existing standard to avoid conflicts/duplication. Avoid code conflicts (the proposed 20 foot language would result in code conflict in some residential construction based on floor plan.) Refine language describing cooking appliance vs kitchen.

Jay Fleming (Task Group Chair, Acceptance of Position Pending)

Brad Barnes

Tom Barakat

Mark Dippner

Arthur Lee

John Parssinen

Lee Richardson

Jim Roberts

NEW TASK GROUP 5 – TASK GROUP FOR AEROSOL TEST SPRAYS

Objective: Development of proposed requirements for smoke detector test aerosols, with consideration of the properties/issues including, but not limited to: flammability of spray, flammability of residue, conductivity of residue, corrosivity of residue, affect of spray or residue on polymeric material, explosive atmosphere (hazardous location considerations), requirements for use including instructions and markings.

Vic Humm (Task Group Chair)

Brad Barnes

Tom Chapin

Rick Heffernan

Tom McNelis

John Parssinen

Stewart Pepper

Adam Selisker

ATTENDANCE AT THE JUNE 21, 2007 MEETING OF THE STP FOR SMOKE DETECTORS AND ALARMS

STP Representatives	
Wayne Aho	Vision Systems
Greg Austin	Gentex Corp.
Tom Barakat	Invensys Climate Controls Americas
Don Brighenti	Simples Time Recorder Co.
Mark Dippner	BRK Brands Inc.
Dan Gottuk	Hughes Associates Inc.
David Hall	Air Products and Controls Inc.
Vic Humm	Vic Humm & Associates
Arthur Lee	CPSC
Loren Leimer	Hochiki America Corp
Jack McNamara	Bosch Security Systems Inc.
Tom McNelis	ETL/Semko
Jim Milke	University of Maryland
Neil Pedersen	System Sensor
John Parssinen	UL
Linda Phinney (for Paul Lloret)	UL
Larry Ratzlaff	Kidde Residential & Commerical
Lee Richardson	NFPA
Jim Roberts	NC Department of Insurance
Dan Ryan	UL
Guests	
John Andres	Kidde
Brad Barnes	GE Security
Tom Cleary	NIST
Ken Cammarato	Kidde
Tom Chapin	UL
Dave Christian	Gentex
John Drengenberg	UL
Ed Duran	First Alert
Scott Edwards	Gentex
Tom Fabian	UL
Pravinray Gandhi	UL
Chris Hasbrook	UL
Joe Hirschmugl	UL
Neil Lakomiak	UL
Scott Lang	System Sensor, Honeywell Life Safety
Andrej Nikolic	System Sensor, Honeywell Life Safety
Paul Patty	UL
Kenny Tam	Intertek
Public Participants	
Dave Buddingh	MTI Industries, Inc.
Bob Barker	Fire Fighting Enterprises
Eric Gonzales	Universal Security Instruments Inc.
Dave Newhouse	Gentex Corp.
Walk Ins	

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Table Continued

Vito Bellatino	UL
Wendy Gifford	Invensys
Isaac Papier	Honeywell

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