

## Poster Session 401: Emergency Preparedness/ Response

*Papers 229–240*

---

**229.**

### **SILO EXPLOSION AT A LUMBER COMPANY—A CASE STUDY ON EXTINGUISHING A FIRE IN AN OXYGEN-LIMITING SILO.**

*S. Berardinelli, NIOSH, Morgantown, WV; C. Guglielmo, WV Workers Compensation Commission, Fairmont, WV.*

The NIOSH Firefighter Fatality Investigation and Prevention Program conducts firefighter line of duty death investigations. In October 2003, two volunteer firefighters were killed and eight others were injured while operating at a silo fire. The concrete silo was located at a lumber company in rural Ohio and was filled with sawdust and wood chips. The silo was originally designed as an oxygen-limiting silo, but the company later modified the silo and operated it as a conventional silo. The fire started at the base of the silo in the auger pit from an overheated auger drive belt. Firefighters were operating on the top of the silo directing water through the cover hatch and at the base of the silo directing water into a lower hatch. The explosion that followed blew the top off the silo, killing two firefighters who were thrown 70 feet to the ground. Several other firefighters and lumber company employees were injured from falling debris. The fire marshal concluded that a backdraft occurred from ignition of the fire gases. This case study will describe the strategies used by the firefighters and how those tactics led to the explosion. NIOSH recommends that firefighters operating at oxygen-limiting silo fires develop standard operating guidelines that include: not directing water through top hatches; carefully closing all open exterior hatches; lockout the electrical service; leaving the silo closed until the fire consumes all the oxygen and self-extinguishes; and consulting the silo manufacturers for advice. It is also recommended that an exterior placard with specific silo safety precautions be used and that facilities ensure the proper operation and maintenance of their silos.

**230.**

### **RECENT DISASTERS EMPHASIZE IMPORTANCE OF PRACTITIONER SKILLS FOR OCCUPATIONAL SAFETY AND HEALTH PROFESSIONALS.**

*J. Zey, L. Ferguson, CMSU, Warrensburg, MO.*

Recent disasters have focused the nation and the world on the need for preparedness planning and well-coordinated rescue and aid methodologies. An equally important but less well-publicized need exists for occupational safety and health (OSH) professionals with a solid foundation in practitioner skills to evaluate exposures to rescuers, recovery workers, and residents. Many OSH professionals have



# ce 2006 Abstract Index by Session Topic

---

2006 Abstracts Author Index (both AIHce and VENT)

2006 Abstracts Keyword Index (both AIHce and VENT)

## AIHce

- Aerosol Technology 179-184
- Agricultural Health and Safety 192-202
- Biosafety and Infection Control 1-6
- Community Exposure: What You Don't Know Might Hurt You 133-138
- Computer Applications and Auditing EHS Systems 19-25
- Emergency Preparedness and Response 89-97
- Engineering and Control Technologies 145-151
- Environmental Microbiology 61-66
- Ergonomics Program Management 98-106
- Exposure Assessment Strategies Modeling 1: Bayesian, Mathematical and More 67-72
- Exposure Assessment Strategies Modeling 2: Bayesian, Mathematical and More 127-132
- Exposure Assessment Strategies and Risk Assessment 107-115
- General Indoor Environmental Issues 221-228
- Human Biological Monitoring and Dermal Exposure 213-220
- Industrial Hygiene General Practice 50-60
- International Occupational Hygiene Issues 73-80
- Laboratory Health and Safety 13-18
- Management and Communications 152-159
- Mold: What is Normal? 116-126
- Mold: Dearth to Disaster 169-178
- Occupational Epidemiology: Modeling and Characterizing Exposures 7-12
- Occupational Ergonomics and Biomechanics 26-32
- Occupational Health — Characterizing Exposures and Their Health Effects 185-191
- Physical Agents 203-212
- Protective Clothing and Equipment 139-144
- Respiratory Research and Regulatory Implications 41-49
- Safety 33-40
- Sampling and Analysis 1 — Traditional and Nontraditional Sampling Techniques and Analysis 81-88
- Sampling and Analysis 2 — Field Sampling Strategies and Techniques 160-168

## Poster Sessions

- Poster Session 401 — Emergency Preparedness/Response 229-240
- Poster Session 402 — Risk Assessment (Risk Management) 241-257

- Poster Session 403 — Aerosols 258-270
- Poster Session 404 — Engineering and Control Technology 271-285

## VENT

- Air Cleaning, Education, Miscellaneous Ventilation 7-12
- CFD and R&D 13-23
- Dilution, Air Quality, Thermal Consideration 45-53
- Energy Considerations 54-62
- Industrial Process Control, System Design Issues 63-73
- LEV Systems, Hoods 36-44
- Standards and Codes 1-6
- Testing, Balancing, Measurement, Air Distribution 24-35
- Poster Session PS1 and PS2 74-102