Curtains Up on Theater Safety

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Curtains Up on Theater Safety

Today’s Objectives

• Increase awareness
• Review recent theater incidents
• Provide tools for managing theater risks

“Devise the fittest time and safest way.”
Celia in “As You Like It”
Theater Operational Risks

What makes the theater world challenging?

– Performance House vs. Producing Theater
– Professional vs. Educational Setting
– Dynamic Nature of Performances
– The Audience and General Public
– Low Frequency, High Severity
– Diversity of Hazards

Look to it well, and say you are well warn’d.”
Richard in “Henry the 6th, Part I”
Theater Arts Hazards

Chemical Hazards
Theater Arts Hazards

Physical / Mechanical Hazards
Theater Arts Hazards

Physical Hazards
Theater Arts Hazards

Biological Hazards
Theater Arts Incidents – In the News

2013 Cirque de Soleil Performer Sarah Guillot-Guyard

Performer Falls 50 ft. to Her Death
Theater Arts Incidents – In the News

2010 Broadway actor Christopher Tierney

Spider Man
Fall during an Aerial Stunt
Theater Arts Incidents – In the News

2008 Yale Student Pierre-André Salim Killed Unloading Sets from Back of Truck

Stack of particle board fell on him

OSHA – “give students training and supervision”
Theater Arts Incidents – In the News

2013 Russian Opera Conductor
Olga Enns

Fall into unfenced orchestra pit during rehearsal. Coma for two weeks before death.
<table>
<thead>
<tr>
<th>Year</th>
<th>Incident Description</th>
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<tbody>
<tr>
<td>2008</td>
<td>Fall from Tension Grid System &gt; 20 Ft.</td>
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<tr>
<td>2010</td>
<td>Fall Through Scuttle Hatch on Catwalk ~ 12 Ft.</td>
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<tr>
<td>2012</td>
<td>Fall from Tension Grid System &gt; 20 Ft.</td>
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<tr>
<td>2013</td>
<td>Fall from 10 Ft. A-Frame Portable Ladder</td>
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UC Incident - 2008

• Tension grids – 1/8” aircraft cable, woven on 2” centers, anchored to steel panels

• Allow working at height, adjusting, focusing lights
• Student working on tension grid, adjusting lighting instrument
• Fell through opening in the grid to stage floor below ~ 25 ft.
UC Incident - 2008

- Grid system had open panels
- Allows for scenic elements to be lowered onto stage
UC Incident - 2008

- Guardrails without proper mid-rail
UC Incident - 2008

Accessing difficult lighting positions
Incident Summary

Contributing Factors

– Facility Design / Work Area Conditions
  • Opening in grid system
  • Guardrails with large openings
  • Lighting equipment difficult to access
  • Low light

– Work Practices
  • Safe procedure for reaching light?

“Provide for thine own future safety.”
Wolsey in “King Henry the 8th”
Injury Outcome

2008 UC Santa Cruz Accident

- Fractured both elbows
- Fractured both femurs
- Fractured spine
- Multiple surgeries
- Residual pain
- $600,000 in medical expenses
Follow-Up Corrective Actions

• All guardrails with proper mid-rail welded in place
• Final 2 panels permanently installed into the tension grid system
• Improved training procedures for students and student employees
• Restrict higher hazard work activities to trained professional staff
Corrective Actions - Guardrails

All guardrails with proper mid-rail

“Keep it safe.”
King John in “King John”
Corrective Action – Safety Training

- Provide Safety Training
- Do as I say, Do as I do – model safe behavior

“Example is not the main thing in influencing others. It’s the only thing.”
Albert Schweitzer

“Don’t worry that children (students) don’t listen to you; worry that they are always watching you”
Robert Fulghum
University of California
Theater Arts Center of Excellence

Theater Arts Center of Excellence
– Completed initial visits to all campuses
– Developing UC Theater Safety Manual
– Creating UC Theater Arts Safety Web Site
– Coordinated System-wide Safety meeting
– Current focus on facility design challenges that may create working at height risks

“Effect it with some care.”
Oberon in “A Midsummer Night’s Dream
Establish Theater Specific IIPP

• Define Roles & Responsibilities
• Provide Safety Training
• Conduct Hazard Evaluations & Develop SOPs
• Perform Safety Inspections
• Investigate Incidents & Implement Corrective Actions

“The gods with safety stand about thee!”
Priam in “Troilus and Cressida”
Identifying and Controlling Theater Arts Hazards

• Inspect shops AND the theater facility

• Ask questions:
  • **How** do you access that light or equipment?
  • **When** was the last time the counterweight rigging system was inspected?
  • **Who** is authorized and trained to use the aerial lift?
  • **How** does an actor ascend & descend through the trap door?
  • **Do** you have an A-frame trestle ladder?
  • **Has** the theater smoke curtain been lowered in the last month, year, ever?
You May Be Surprised!

How do you access that light or equipment?

“Embrace your own safety”
Celia in “As You Like It”
You May Be Surprised...Really Surprised!

How do you access that light or equipment?
Hazard Evaluations
Loading Bridge Arbor
Hazard Evaluations

Orchestra Pits
Hazard Evaluations

Paint Frames
Hazard Evaluations

FOH Cove Lighting Positions
Hazard Evaluations

Ladder Access / Scuttle Hatches
Inspect & Maintain Specialty Systems

- Counterweight Rigging
- Tension Grid
Resources & References

Books
- Stage Rigging Handbook, 3rd Ed.; Jay Glerum
- Entertainment Rigging, A Practical Guide; Harry Donovan
- Practical Health and Safety Guidelines for School Theater Operations; Dr. Randall Davidson
- The Artist’s Complete Health & Safety Guide, 3rd Ed.; Monona Rossol
- The Health & Safety Guide for Film, TV, and Theater, 2nd Ed.; Monona Rossol

Web Info
- Theater Safety Blog http://www.theatreface.com/erichfriend
- American Ladder Institute http://www.laddersafety.org/
- Power Tool Institute http://www.powertoolinstitute.com/who.html
- Sound Advice http://www.soundadvice.info/index.htm
- Film Skills http://www.filmskills.com/
- Entertainment Technician Certification Program http://etcp.plasa.org/

Handouts
- Theater Operations Questionnaire
- Production Safety Assessment Checklist
- Theater Facility Inspection Form
- Tension Grid & Catwalk Inspection Form
Summary Review

• Hazards are Diverse and Dynamic
• Incidents Can be Severe and Costly
• Establish an IIPP
• Develop Written Procedures
  • Job Hazard Analysis
  • Written Fall Protection Plan
  • Codes of Safe Practice
• Train Cast, Crew, Students

“Devise the fittest time and safest way.”
Celia in “As You Like It”
Questions?

"Take care."
Stephano in "The Tempest"
Exit – Stage Left

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