

## Fall 2015 CHES M Seminar



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The background features a stack of crumpled, off-white paper. A red L-shaped bracket is positioned in the top-left corner, and another red L-shaped bracket is in the bottom-right corner. A dark blue circular shape is located in the top-right corner, and a dark blue diagonal bar is in the bottom-left corner.

# **Risk Management & Insurance**

# Risk Control Techniques

- Avoidance
- Loss prevention
- Loss reduction
- Separation
- Duplication
- Diversification



# Know your Systems

## Details

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- System drained and opened for maintenance on a valve
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- System drained and opened for maintenance on a valve
- Operators were unaware of connected systems affected by repair
- Main system put back in service with catastrophic failure of connected system



## Details

- Severe storm causes roofing damage to a sound studio
- Roofers brought in to apply new flat roofing
- They shut off power to roof mounted AC units to prevent fumes from entering building
- This turns off the dedicated AC to one of the sound studios mixing boards
- Mixing board overheats and 'melts'



# The right 'Tool' for the Job

- Details
- Cleaning personnel assigned to start backup D.G. as part of monthly P.M.
  - Overlooks the puddle of oil beneath the engine prior to starting.
  - Either ignores or is absent to notice numerous alarms that trigger during engine run time
  - Engine fails catastrophically



- Details
- DG being run up for testing following maintenance
  - Fuel filter installed using improper tool
  - Filter leaks and contaminates ground before leak is detected





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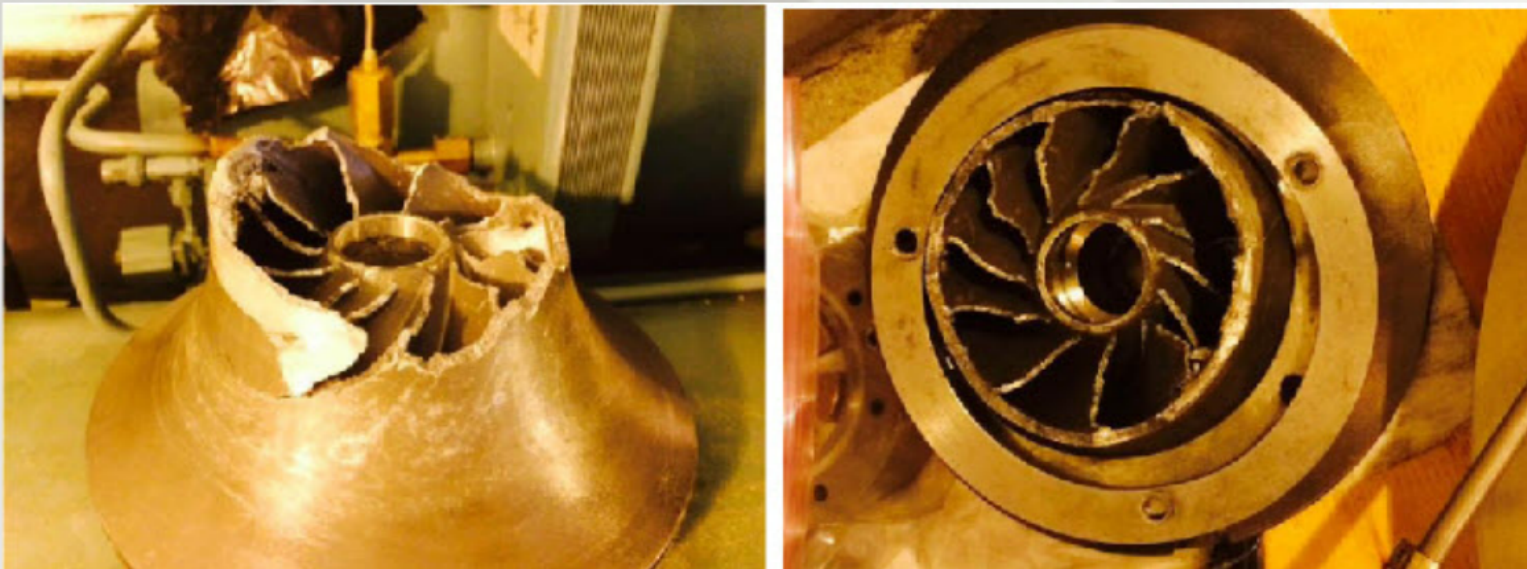
# Understanding the whole Problem First





## Details

- Chiller trips off due to low oil pressure
- Maintenance company brought in to remedy
- Oil cut-out bypassed in order to diagnose problem
- Catastrophic failure of chiller ensues
- Further investigation determines oil pump had initially failed

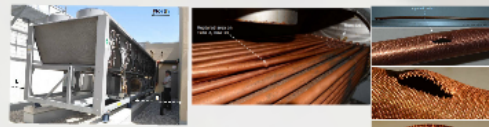




# Do it Right the first time

## Details

- Duplex rooftop chiller system
- Commissioning process not completed properly
- Antifreeze not added to system compounded the failure



## Details

- Municipal Water treatment facility heated by passive solar array

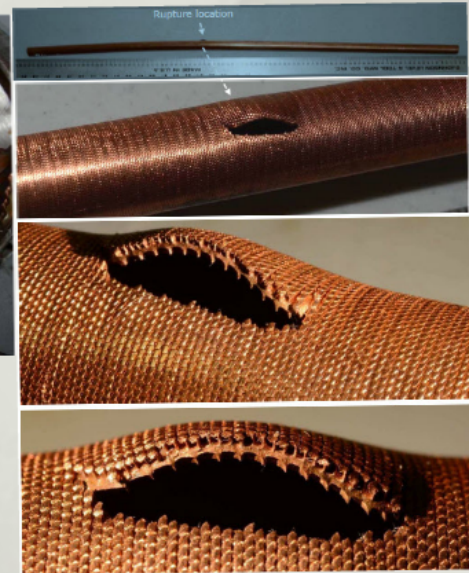
## Details

- Municipal Water treatment facility heated by passive solar array
- Not properly winterized and no PM on antifreeze



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