

THE LATEST LOSS CONTROL AND CLAIMS TRENDS *in the Energy Industry*

HOWARD J. SOMERS, P.E., ASP

Senior Vice President and Division Head – Loss Control

AEGIS Insurance Services, Inc.

MARK R. BLUESTEIN

Vice President / Senior Counsel – Claims

AEGIS Insurance Services, Inc.

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INDICATORS *Statistics*

- Leading (prevention of incident)
 - Risk assessments
 - Utility and property operations
 - Electric, natural gas, water, call centers, property and machinery
 - Utility (casualty) – evaluates member's operating practices and condition of system
 - Property – evaluates plant's critical equipment with respect to operations and maintenance
 - Loss Control products and services

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INDICATORS *Statistics*

- Lagging (after incident occurred)
 - OSHA incident rate (versus “near miss”)
 - DART rate
 - Reported claims
 - Headlines

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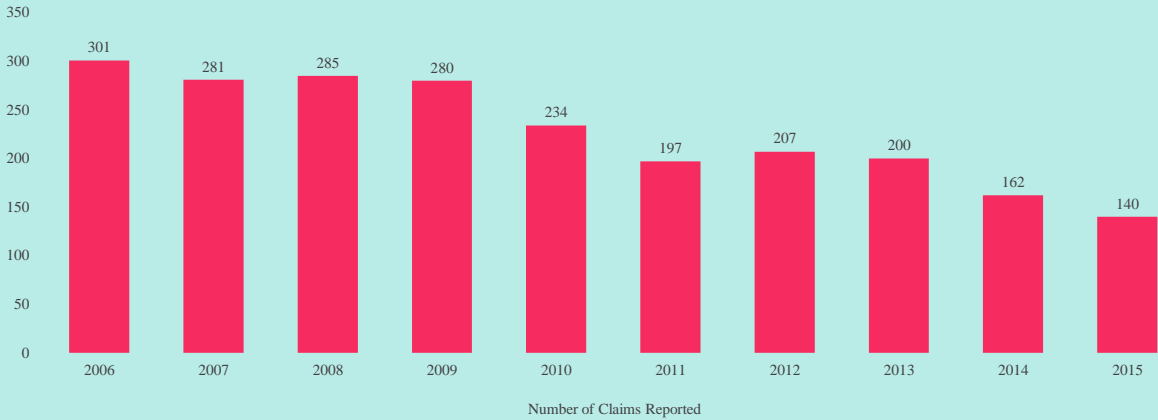


AVERAGE REPORTED *Incidents*

- AEGIS casualty
 - ~200 reported claims with electric exposure
 - Electric contacts: 168 (84%)
 - PSA impact: ~130 (77%)
 - ~45 reported claims with natural gas exposure
 - Natural gas explosions or fires: 37 or (82%)
 - PSA impact: ~24 or (65%)
- OSHA reported yearly data
 - Non-utility worker incidents (average): 563
 - Estimate non-work related electric incidents: 211
 - Electric accidents per day: 2.12
 - Public and non-utility workers

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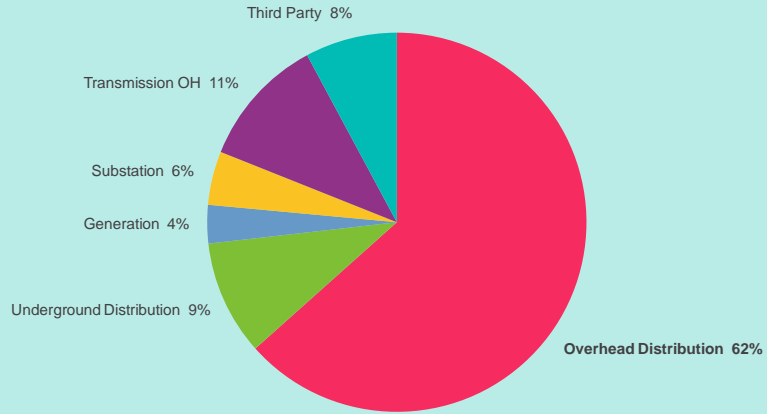


ELECTRIC*2006 -2015***2016** PHC**ELECTRIC UTILITIES***Where are the incidents occurring?*

- Which poses the greatest liability risk?
 - Power plants
 - Substations
 - Overhead transmission lines
 - Overhead distribution facilities
 - Underground padmounted equipment

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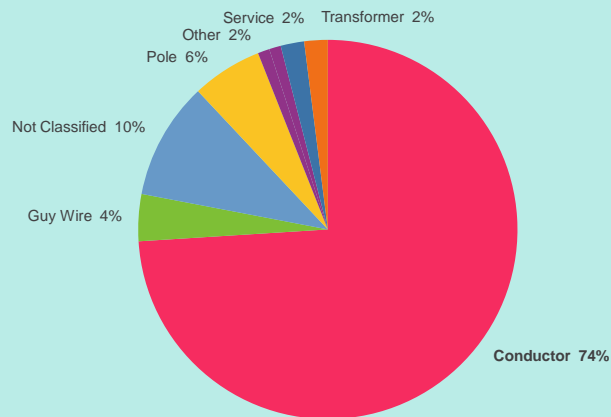
ELECTRIC CLAIMS *by System*
2006 – 2015



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OVERHEAD DISTRIBUTION Claims *By Subsystem, 2006 – 2015*

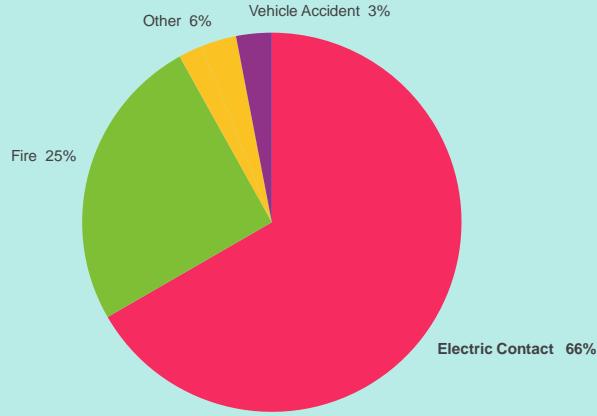


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OVERHEAD DISTRIBUTION *Claims*

By Loss Type, 2006 – 2015

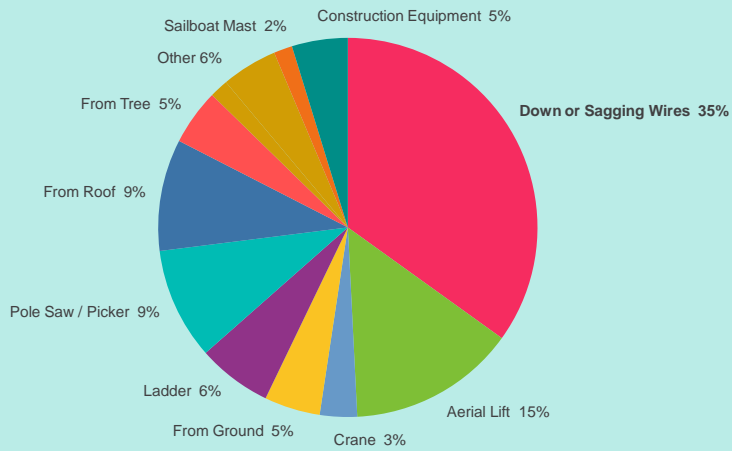


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OVERHEAD DISTRIBUTION *Electric Contact*

By Source 2006 – 2015

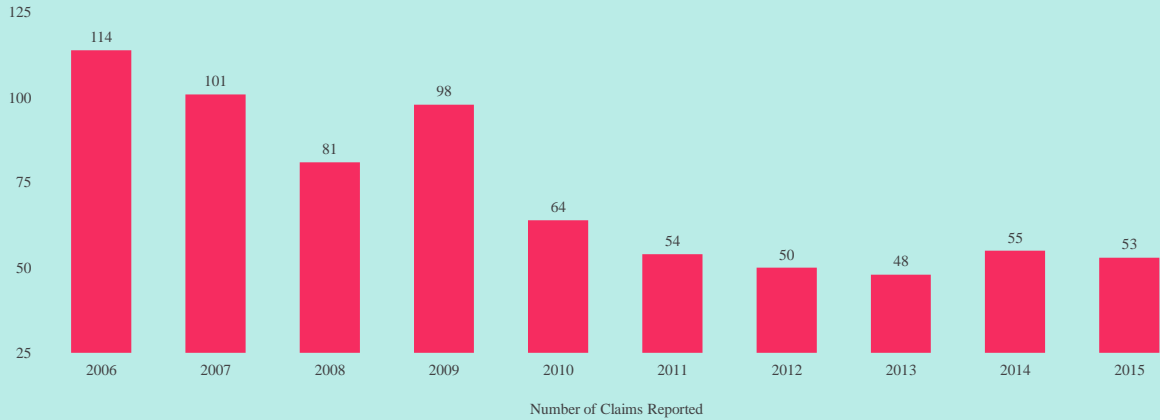


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NATURAL GAS Claims

2006 -2015



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NATURAL GAS Utilities

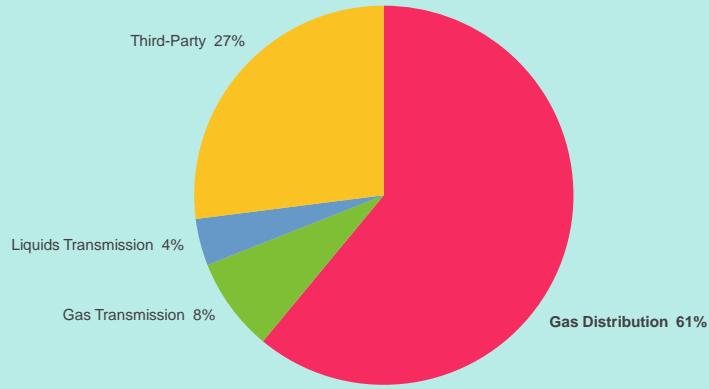
Where are the incidents occurring?

- Which poses the greatest liability risk?
 - Processing plants
 - City gas stations
 - Transmission facilities
 - Distribution facilities
 - Third party

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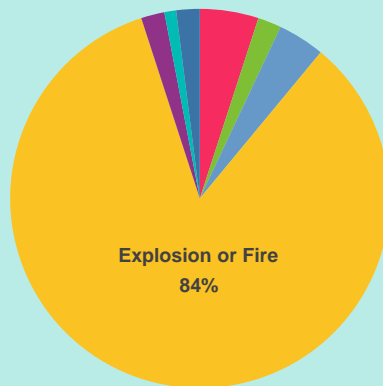
NATURAL GAS INCIDENTS *by System*
2006 – 2015



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NATURAL GAS *Distribution*
Loss Types, 2006 – 2015

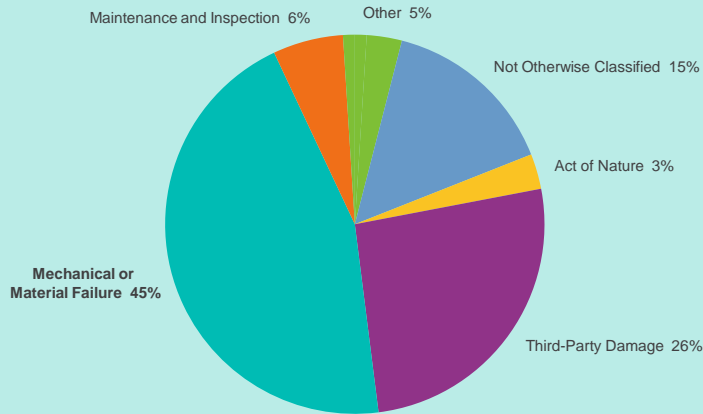


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NATURAL GAS *Distribution*

Explosion & Fire Causes, 2006 - 2015



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HEADLINES TELL *the Story*

- Catastrophic incidents
 - Loss of life, serious injury or extensive property damage
 - Cost utilities millions of dollars in claims and expense
 - Negative publicity and lasting unfavorable perception

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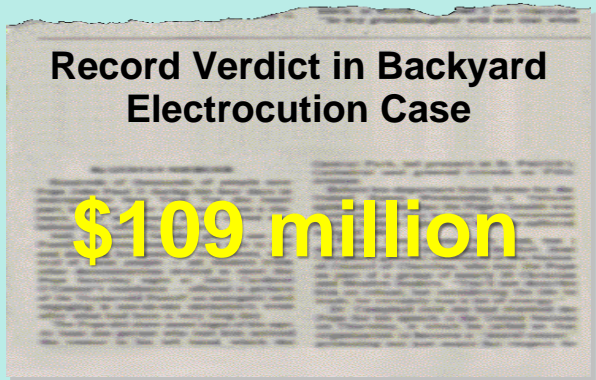
HEADLINES TELL *the Story*



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HEADLINES TELL *the Story*



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HEADLINES TELL *the Story*

5 Killed and Others Injured in Pipeline Explosion

\$90 million

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HEADLINES TELL *the Story*

**Blast Levels Neighborhood
Gas Leak Suspected**



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RISK ASSESSMENTS

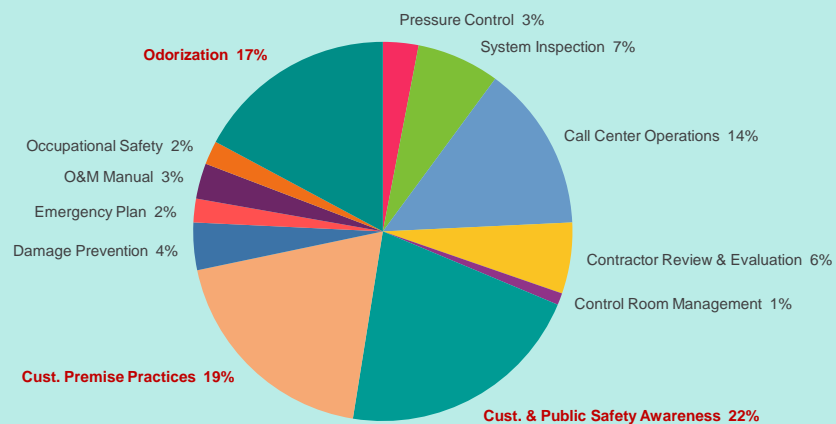
- Findings and suggestions
 - Natural gas
 - Electric
 - Call center

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NATURAL GAS UTILITY Risk Assessments

Percentage of Suggestions by Topic Element



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OBSERVATIONS – NATURAL GAS *Loss Prevention*

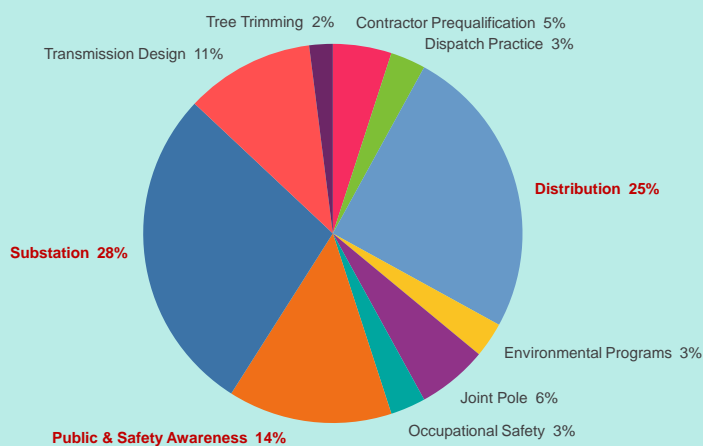
- Public safety and awareness
 - Messages targeting public, schoolchildren, emergency responders and contractors
- Customer premise practices
 - Hazardous condition procedures
- Odorization programs
 - Documentation

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ELECTRIC UTILITY *Risk Assessments*

Percentage of Suggestions by Topic Element



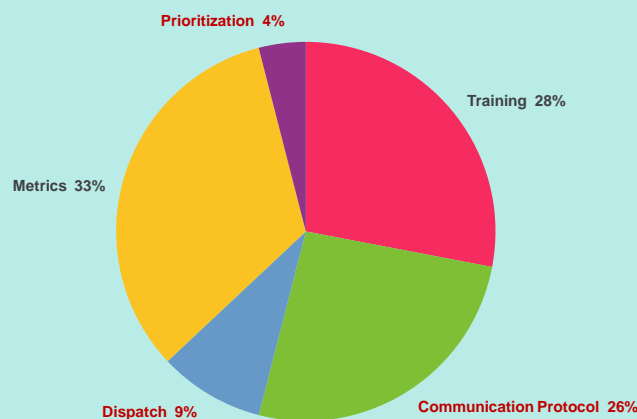
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OBSERVATIONS – ELECTRIC *Loss Prevention*

- Substations
 - Signage, grounding, inspection criteria and operating practices
 - Outdated, missing, not thorough, lacking documentation
- Distribution system
 - Inspection program
 - Not addressing all equipment
- Public safety and awareness
 - Messages targeting public, first responders, contractors and schoolchildren

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**UTILITY CALL CENTER** *Activities**As of June 30, 2016*

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OBSERVATIONS – CALL CENTER *Loss Prevention*

- Prioritization for types of calls
 - Downed or low-hanging wire
 - Reports on an inside gas odor
- Dispatch communication
 - Electronic ticket and / or phone call
- Communication protocol
 - Clear, concise, sense of urgency
 - External and internal

2016 PHC**MITIGATION METHODS** *Loss Prevention**AEGIS Loss Control Partnership with Members*

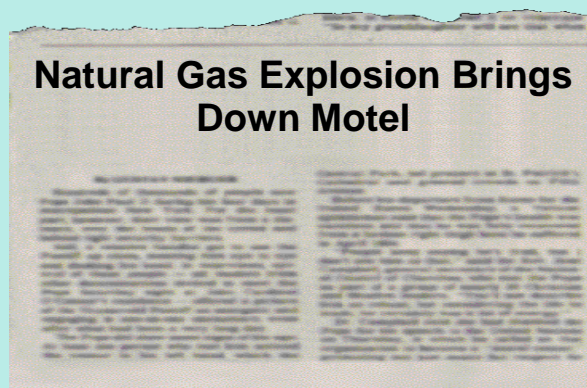
- Risk assessments
- Call center assessments
- Public safety and awareness educational programs
- Inspection programs

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WHAT WE'VE LEARNED *Loss Prevention*

- Follow procedures
 - Engineering and design
 - Call center
 - Dispatch
 - First responders and field crews
- The importance of doing it right...two examples with drastically different outcomes
 - Natural gas incident
 - Electric incident

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**NATURAL GAS** *Event*

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NATURAL GAS *Event***2016** PHC**NATURAL GAS** *Event*

- Leak reported before 8:00 pm; explosion at 8:24 pm
- Significant portion of motel destroyed
- Gas company followed proper procedures
- Occupants evacuated upon instruction of gas company
- All guests accounted for; no injuries to guests
- Responding gas company worker injured; recovering well
- No apparent gas company liability

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ELECTRIC CONTACT *Case***2016** PHC**ELECTRIC CONTACT** *Case*

- Guy wire corroded, broke free of anchor and was left hanging in backyard
- Homeowner called service center to report the problem on a weekend
- Call center representative asked homeowner to call back during work week
- A few months later, two young children playing, grab guy wire and swing it into energized conductor

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ELECTRIC CONTACT *Case*

- Injuries
 - Extensive burns to both children
 - Multiple surgeries; skin grafts
 - Permanent disfigurement
 - One child lost leg, other child lost fingers and toes
 - Both require lifetime care

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ELECTRIC CONTACT *Case*

- Aggravating factors
 - Improper handling of call
 - The call was recorded and preserved for trial
 - Allegations that additional calls were made
 - Broken guy wire did not have properly positioned insulators
- Outcome
 - Demand of \$75 million
 - Case resolved; confidential settlement

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PROPERTY OPERATIONS *Loss Data*

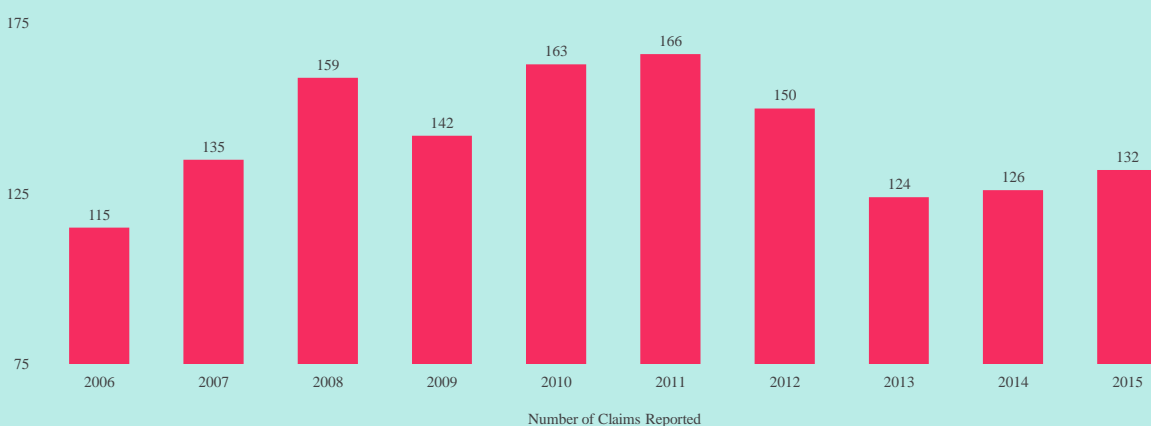
- Property claims
 - Number of reported claims
 - Classification of perils
 - Equipment affected

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PROPERTY *Claims*

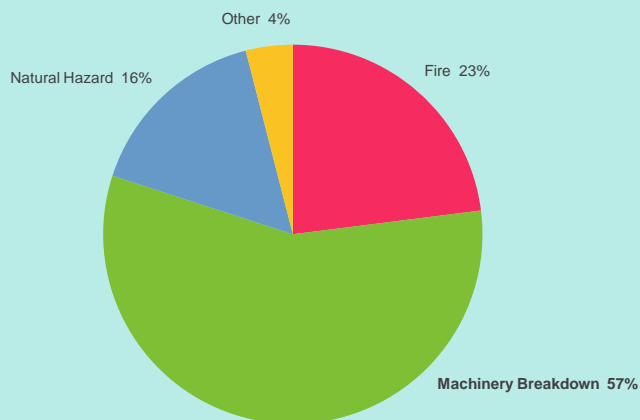
2006 - 2015



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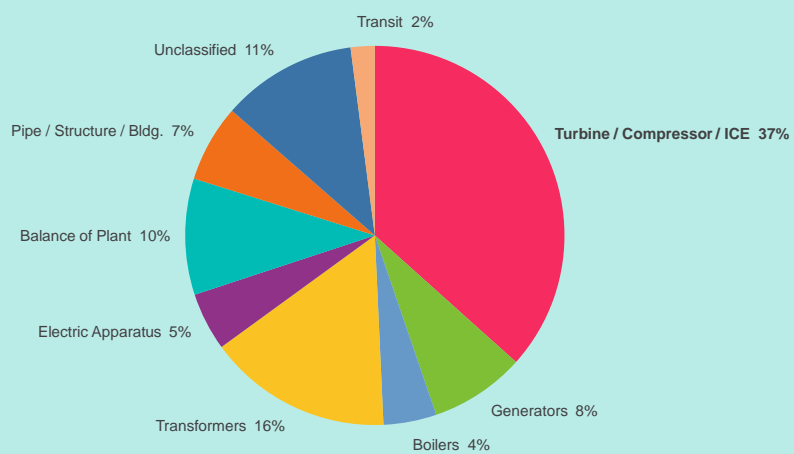
PROPERTY Coverage Peril
Percentage of Claims



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PROPERTY Major Equipment Damage
Percentage of Claims



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EQUIPMENT FAILURE *Analysis*

- Renewables – must take generation
- Base load units – changes in operational profile
 - Increase in cycling and shutdowns
- Combustion turbines – increase in peak run time
- Impacts
 - Shifting of phase transition zone in steam turbines
 - SCC / CF increased
 - Increase in combustion turbine and generator failures

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RENEWABLE IMPACTS *on Generation*

- Actions (loss prevention)
 - Risk assessments highlight industry shift in practices
 - Emphasis on water chemistry
 - Focus on maintenance frequencies
 - Postponement of maintenance outages not recommended
 - More inspections may be needed
 - AEGIS webinar planned in 2016 associated with generator failures

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SUMMARY

- Public safety and awareness educational programs
- Call center operations
- Design, construct, inspect and maintain systems
- Develop emergency response plans and periodically test those plans
- Stop by the Loss Control video wall
- Visit aegislink.com website

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