  
**ZURICH**

## Business Interruption

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Zurich Services Corporation  
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## Recent Events of Interest Engineering Perspective

- Tennessee Flooding
- BP Oil Spill
- Iceland Eyjafjalljokull Volcanic Eruption and Ash

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## Business interruption

- BI "Chain Rule"
  - Physical damage to a described property by a peril insured against which causes a necessary interruption of operations
- The policy covers:
  - The defined loss (gross earnings or gross profit) for the defined indemnity period

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## Business interruption



- Extensions of coverage
  - Extra expense
  - Extended period of indemnity
  - Civil authority
  - Ingress/egress
  - Building ordinance (DICC)
  - Service interruption
  - Interdependency
  - Leasehold interest
  - Contingent business interruption

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## Business interruption



- Current business trends impacting BI loss severity
  - Location and department interdependencies
  - Minimal inventory levels (JIT)
  - Equipment complexity – custom built
  - Equipment intensive manufacturing (less labor)
  - Reduced maintenance staffs and scheduled maintenance shutdowns
  - Electronic data and commerce
  - Outsourcing to foreign countries
  - Lack of excess capacity/manufacturing redundancy
  - Increased efficiencies/high volume > short down time = significant loss
  - Service economy
  - Unexpected magnitude of widespread disasters
  - Re-start the Supply Chain

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## Global trade



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**Consequences of Business Interruption**



- Loss of Income and profitability
- Inability to maintain customers and services
- Damage to image, reputation and brand
- Failure to protect the company assets
- Business control failure
- Employee moral impact
- Financial and budget impact & high cost of borrowing
- Failure to meet legal and regulatory requirements

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**Tennessee Flooding**



- Middle Tennessee – May, 2010 – Exceeded 100-year flood
- A sample of high BI loss event potentials:  
Opryland Resort at Nashville  
A. O. Smith at Ashville
- Fixed protection in place – Levees
- Described as the worst flooding in over 50 years
- Coverage for Business Interruption Insurance is contingent on having the Physical Damage coverage. BI insurance is not a stand-alone coverage.
- Did a Physical Damage event occur?
- Was it a covered event?

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**Tennessee Flooding  
Risk Engineering Flood Evaluations**



- FIRM flood maps
- Local topography at facility (sheeting potential, water back-up from rivers, lakes, ponds creeks, storm drains)
- Levees and Dikes. Flood control measures in place
- Construction
- Exposures at and below grade level and importance
- Recognition and Planning – Evacuation and relocation
- Mitigation plans to minimize and mitigate the loss potential
- Equipment on site such as water removal pumps, sandbags, flood gates for openings, mops and buckets, clean up equipment and mold control
- Ingress and Egress

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**B. P. / Deepwater Horizon Gulf Oil Spill**



- Who has direct Property Damage from the event?
- Is there is a Business Interruption loss for the following:  
B. P.?  
Deepwater Horizon?  
Fisherman and shrimp companies?  
Cargo ships (marine)?  
Hotels, restaurants and shops in the impacted area?  
Seafood restaurants in NYC?  
Charter boats?
- Is there any Interdependency or Contingency Business Interruption loss?
- What about Civil Authority and closing of beaches?

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**B. P. / Deepwater Horizon Gulf Oil Spill**



- Will the \$20.0 Billion B. P. fund follow the same requirements as the necessity to have a direct Physical Damage event?
- Possible litigation events:  
General Liability  
Product Liability
- Possible laws impacted:  
Maritime laws  
Clean Water Act  
Refuse Act  
Limitations of Liability Act of 1851  
Marine Mammal Protection Act  
Endangered Species Act  
Migratory Bird Treaty Act  
Environmental Laws  
OSHA
- This is a unique event and may require litigation to resolve the issues

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**B. P. / Deepwater Horizon Gulf Oil Spill  
Risk Engineering Vital Equipment vs.  
Vital Equipment in Buildings**



- Some of the vital equipment you see daily that is required to have regular periodic inspection and testing:  
Elevators  
Automatic Fire Alarm Systems (Occupant notification)  
Automatic Sprinkler Systems  
Fire Pumps  
Boilers  
Pressure Vessels
- Emergency Planning and Process Safety Management for hazardous operations
- Business Continuity Planning

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## Iceland Eyjafalljokull Volcanic Eruption



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## Iceland Eyjafalljokull Volcanic Eruption



- Who has direct Property Damage from the event?
- Is there is a Business Interruption loss for the following:
  - Airlines?
  - Airports?
  - Travelers?
  - Businesses sending supplies by air freight?
- Is there any Interdependency or Contingency Business Interruption loss?
- What about Civil Authority and Iceland air space requirements?
- Were the delays and cancellations taken to prevent physical damage to the aircraft?
- This is another unique event and litigation may occur to resolve the issues

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## Iceland Eyjafalljokull Volcanic Eruption Risk Engineering Supply Chain & Interruptions



- Some major corporations suffered business interruptions due to the inability to deliver their supplies by air freight
- Marine cargo is typically not covered for any Business Interruption based on variables that delay the delivery. Some of these are storms at sea and Port access
- Corporations need to evaluate their supply and demand needs and determine if stockpiling is needed in a distant location in order to absorb unexpected delays
- Corporations consider the supply stockpiling needs when shipping by cargo ships

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## Business interruption



- Manufacturing occupancy
  - Lost production units (units x time)
  - Make up capabilities
  - Stockpiling
- Mercantile occupancy
  - Lost sales
- Service/financial occupancy
  - Make up capabilities
  - Additional costs to make up lost revenues
- Rental property
  - Loss of rental income

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## Expenses incurred to mitigate the loss



- Under the business interruption policy, any expenses, in excess of normal, incurred to reduce the loss are recoverable, but only to the extent to which the loss is actually reduced. These extra or expediting expenses shall not exceed the amount of the loss.
- Efforts to reduce the loss
  - Working overtime
  - Transferring goods from other of the insured's plants
  - Using outside processing
  - Purchasing outside goods for sale
  - Purchasing machinery and equipment at a higher price in order to receive it sooner.
  - Using rental equipment

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## Business interruption



- Total vs. partial loss
  - Timing for property restoration
  - What are the long lead time items
  - Impact on expenses
  - "Suspension" of business
- Business profitability
- Opportunity to incur extra expense
  - Extra cost of relocation/temporary facilities
  - Expediting the repair or restoration of damaged property
  - Expedited delivery to customers
  - Employee overtime to recover lost production or sales
  - Outsourcing of production

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## Business interruption Mitigation



- Mitigation strategies
  - Add additional shifts: overtime and production bonuses
  - Building extensions on other undamaged locations
  - Consider merger, acquisition and joint venture opportunities
  - Construct temporary structure and production line
  - Convert existing warehouse to production space – use a public warehouse if necessary
  - Determine customer inventory supply and flexibility
  - Increase production from sister plants and outsourcing
  - Reconfigure distribution logistics and incur extra freight as necessary
  - Relocate vs. rebuild
  - Replace vs. repair
  - Redundancy - Recovery - Resiliency

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## What are the drivers?



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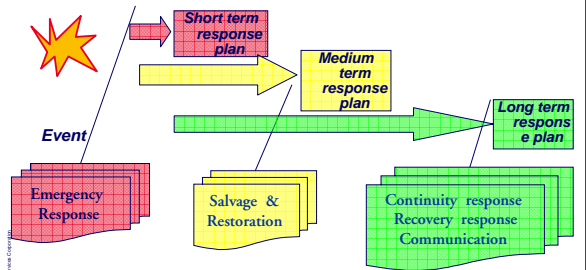
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## Loss Event Actions



A combination of different actions applied in different stages after an event



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## Prioritization starts with the GAP



In case of serious disruption

- **Customer Loyalty (in days / weeks / months) i.e.**
  - When will customers go to competitor?
- **Worst Case Interruption Time "As Is" (in days / weeks / months)**
  - Information from the business impact analysis

**The GAP:**  
Worst Case Interruption minus Customer Loyalty, equals time (in days / weeks / months) for competition, or substitute competition, to penetrate the company's market

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Ready for the expected!  
... there are still (too) many unexpected events!



## Business Continuity Management



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