

Managing Operational Risk in the Global Supply Chain

Feb 15, 2008

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Key Points

- Elements of Risk in the Supply Chain
- Mitigation Strategies
- Performance – “Your Best Bet”

Elements of Risk in the Supply Chain



- Origin of risk:
 - Internal
 - Process &/or systems capability
 - Resource capacity &/or availability
 - External:
 - Competition
 - Labor disruptions
 - Regulations
 - Logistics providers
- Type of risk:
 - Controllable vs uncontrollable
 - Severity – major vs minor
- Awareness of risk:
 - Known vs unknown
 - Ability to detect

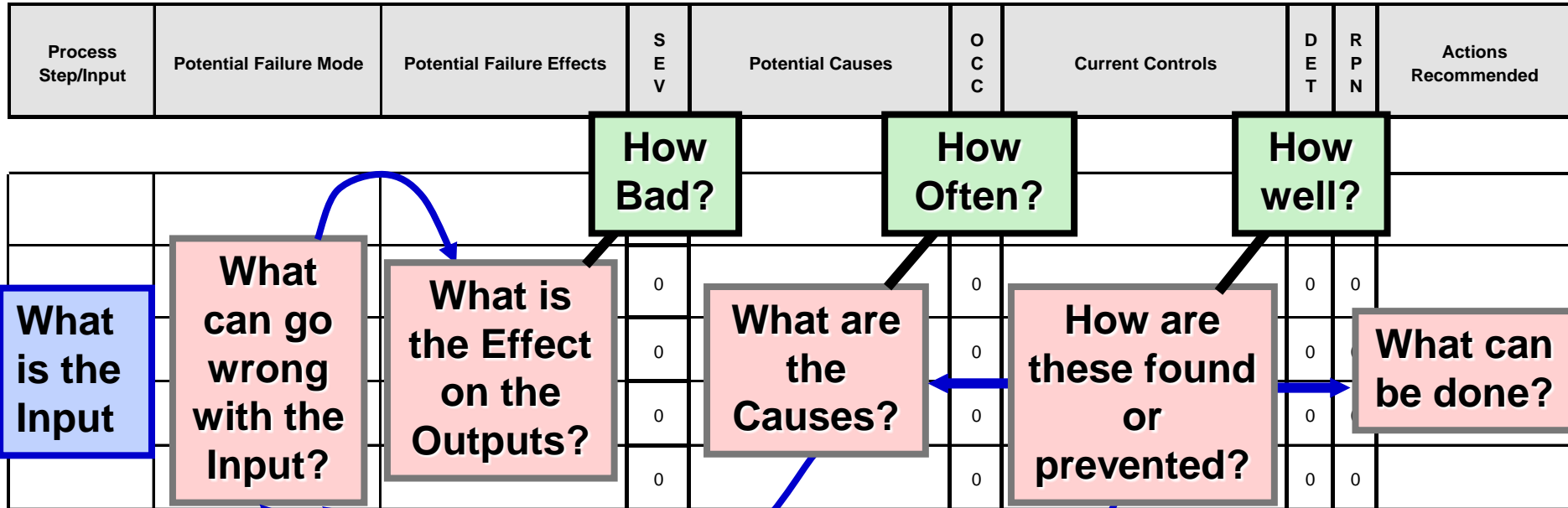
Mitigation Strategies

- Elimination
- Avoidance
- Redundancy
- Detection
- Contingency / back-up plans
- Documentation
- Preparation
- Communication
- Business Continuity Plan



Tools for Managing Risk

FMEA = Failure Mode & Effects Analysis



RPN = Risk Priority Number

- The output of an FMEA
- A calculated number based on:
 - Potential failure modes
 - Effects
 - Ability to detect failures before reaching the customer
- Calculated as the product of three quantitative ratings, each one related to the effects, causes, and controls:

RPN = Severity X Occurrence X Detection

Effects

Causes

Controls

Examples

- Global sourcing
 - **Risks** – longer supply chain, quality, transportation
 - **Mitigation** – domestic WH's, SMI agreements, inventory visibility, local SQL/supplier development resources, terms of sale
- Parts Distribution Center relocation
 - **Risks** – facility preparation, learning curve, customer disruption
 - **Mitigation** – dedicated project team/management, phased ramp up, duplication of resources
- Warehouse Management System implementation
 - **Risks** – loss of functionality, “invisible factory”, IT infrastructure, bottlenecks/reduced throughput
 - **Mitigation** – experienced project team, unit & integration testing, capacity testing, operational walk-thru's, cutover rehearsal

Performance – “Your Best Bet”



Joe Loughrey – Cummins Inc. President & COO

- Many risks in our global operating environment:
 - Will US carmakers enter the diesel market?
 - What will our competition do?
 - Will fuel costs drive governments to take actions?
 - Will energy be available?
- The actions CMI has taken in the last 3 years have made the company stronger & more resilient to these potential threats
- The most prudent strategy for managing risk is to **perform** consistently well

Cummins Operating System



1. Put the customer first and provide real value



2. Synchronize flows (material, physical and information)



3. Design quality in every step of the process



4. Involve people and promote teamwork



5. Ensure equipment and tools are available and capable



6. Create functional excellence



7. Establish the right environment



8. Treat preferred suppliers as partners



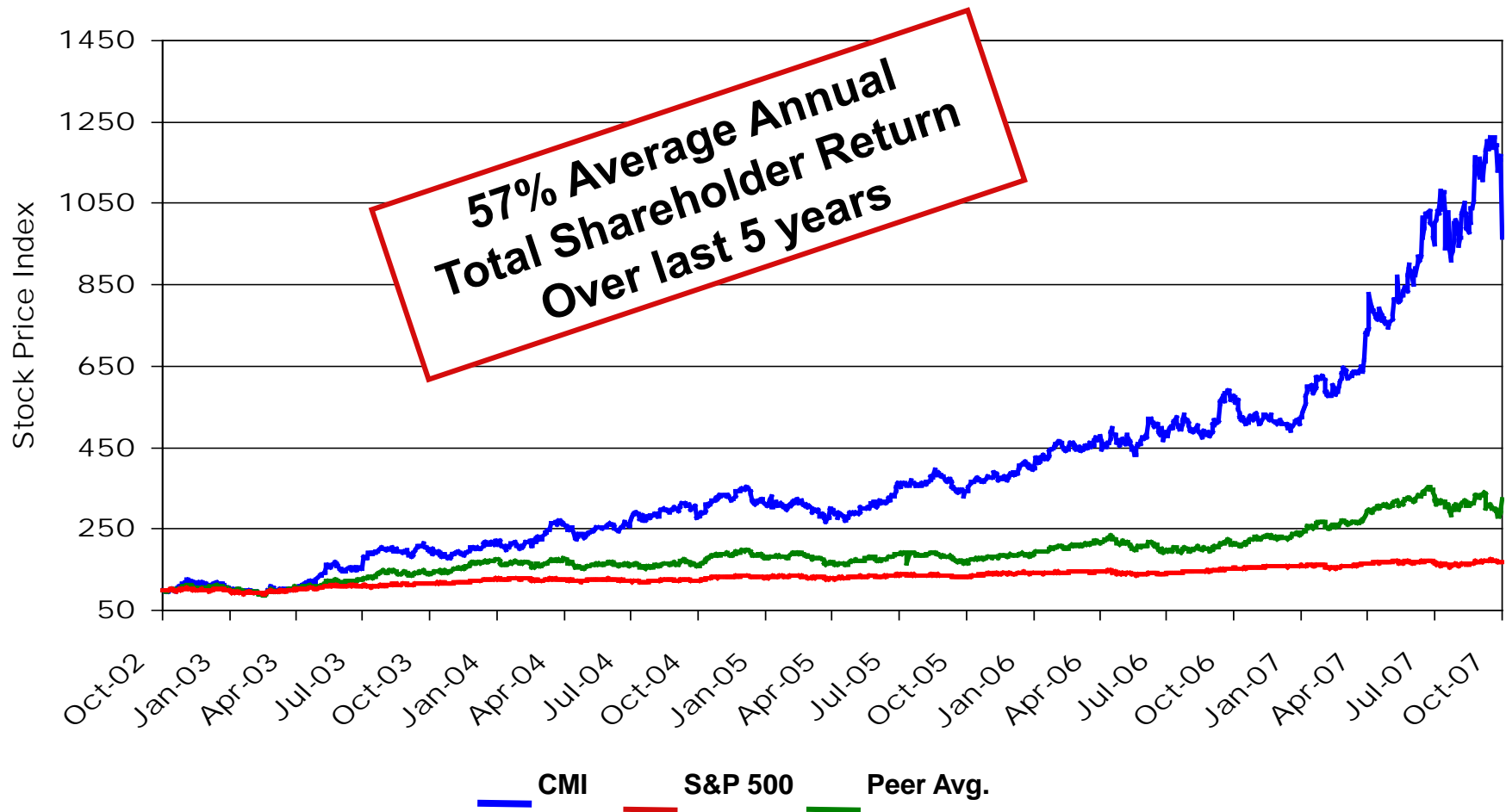
9. Follow common problem solving techniques



10. Use Six Sigma as the primary process improvement method



Outperformed our Peers



Don't think it can't happen

February 5, 2008 – Memphis, TN

200 yards from Cummins MDC

All employees safe

Operations restored within 12 hours

Ran 3 full days on Cummins generator power

No customer impact





Recap - Key Points

- Elements of Risk
- Mitigation Strategies
- Performance – “Your Best Bet”

Thank You

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