The Business Case for Process Safety
Managing Process Safety Is Good Business!

(1) Corporate responsibility
   to employees, shareholders, the community, and the public

(2) Freedom to manage
   to protect and maintain the business; to enable future direction, growth, and success

(3) Loss avoidance
   to save lives, reduce injuries, limit property damage, and retain corporate image and revenues

(4) Creating Value
   to employees, customers, shareholders, the community and the industry
Managing Process Safety requires a set of management systems directed at preventing major accidents involving hazardous materials.

The focus of these management systems is:

1. Technology
2. Facilities
3. Personnel

CCPS and other organizations, including ACC, API, OSHA, and EPA have developed similar management systems for Process Safety.
Corporate Responsibility
A Commitment to Process Safety Demonstrates Corporate and Social Responsibility:

• Being a good corporate citizen
• Being in compliance with regulations
• Being in conformance with industry standards worldwide
• Enhancing customer and supplier relationships
• Maintaining a safe work environment and being a good neighbor
• Fulfilling an obligation to protect the employees and the community
• Proactively managing an effective process safety program

Today, communities have “zero tolerance” for companies that have incidents with offsite impact

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How Does Being Responsible Benefit the Company?

- Reduces the likelihood of adverse inspections by regulators
- Lowers the risk perceived by the investment community
- Increases employee morale, loyalty, and retention
- Increases the value of the corporation’s image and “brand”
- Reduces concerns of the local community
- Improves the ability to get insurance coverage with good rates
- Increases the ability to get loans for capital expansion

Being responsible protects a company’s reputation and shareholder value
Freedom to Manage the Business (self-determination):

- Maintain the Company’s existence
- Retain the right to operate freely
- Obtain regulatory approvals
- Expand existing plant sites
- Build new facilities
- Earn the respect and confidence of the community
- Attract and retain key staff
- Develop new products

Freedom to choose the path forward

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What Are the Benefits of “Self Determination”? 

• Retains a company’s “license to operate”
• Strengthens relationships with the local community, the public and the investment community
• Allows for rapid resolution of siting issues
• Expedites approval of permits for new facilities and expansions (fast-track approval process)

Managing Process Safety effectively allows a company the freedom of self-determination to grow profitably

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Loss Avoidance
Significant Losses are Avoided by Managing Process Safety Effectively

• Saves lives and reduces injuries

• Reduces the risks and costs of major accidents
  - $80 million in property damage per incident (average in USA for major incidents for past 10 years)
  - Business interruption losses, often as much as 4 times property damage
  - Regulatory fines in excess of $1 million
  - Litigation costs up to five times the regulatory fines

• Eliminates costs to investigate accidents and implement corrective actions

• One company saved $5 million per year by reducing injuries and fatalities to 50% of the industry average plus $3 million in worker’s compensation costs

Process Safety protects against losses

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What can go wrong if Process Safety is not managed effectively?

- Fatalities, injuries, property damage and business interruption
- Substantial drop in share price and loss of market share
- Disruption of normal business activity, loss of corporate direction, diversion of senior management attention
- Ripple effect throughout the company and the entire industry
- Inability to respond to competitor actions
- Weakened overall condition leading to undesirable takeovers
- Personal liabilities of company officers

The “lessons learned” from major accidents provide a clear message of the potential dangers when Process Safety is not effectively implemented

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Creating Value - by Managing Process Safety Effectively

- Good management of process safety helps you to meet many of your other corporate obligations
- Achieving gains in productivity through higher equipment reliability and more effective process control
- Reducing manufacturing costs
- Improved employee health & safety
- Increasing reliability of supply and customer loyalty
- Reducing risks during restructuring, mergers and acquisition

The value created can be substantial

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What VALUE has been achieved by some large chemical and petroleum companies?

The following are examples of specific savings realized and documented by several CCPS member companies:

- 5% increase in productivity that resulted in annual savings of $50 million
- 5% reduction in maintenance costs that resulted in annual savings of $50 million
- 3% reduction in production cost that resulted in annual savings of $30 million
- 1% reduction in capital budget that resulted in annual savings of $12 million
- 20% reduction in casualty insurance premiums that resulted in annual savings of $6 million

Implementation of process safety creates shareholder value

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What additional Value could be achieved?

A recent CCPS sponsor workshop studied:

7 major industrial facilities
– olefin (ethylene) plant,
– olefin derivatives plant (PO, EG)
– batch pharmaceuticals,
– batch emulsion polymerization,
– polystyrene,
– specialty polymer plant,
– refinery operations

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What additional value could be achieved?

A recent CCPS sponsor workshop estimated expected values of the following benefits of implementing a Process Safety management system:

- increased yields
- increased productivity (& reliability)
- decreased production costs
- decreased maintenance costs
- lower capital
- reduced insurance premiums
- extended turnarounds
- avoiding start-up delays
- quality improvement (avoided rework)
What additional Value could be achieved?

Some examples - more details are in the paper:

- 1% productivity increase in an olefins plant saves up to $10 million per year
- 1% yield increase in a major pharmaceutical unit saves $9 million per year
- Combination of 1% yield & productivity increases results in $15 million savings per year for a propylene oxide unit
- 1% yield & productivity increases for commodity plastics plant (PS) result in $2 million savings per year

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So, in summary, excellent Management of Process Safety:

- Demonstrates corporate social responsibility
- Assures freedom to manage the business (self-determination)
- Avoids major losses
- Creates positive business value

Realize the full benefits of Process Safety in your company!
AN EXAMPLE: The CCPS PS Management System

1. Accountability, objectives & goals
2. Process knowledge & documentation
3. Capital project review & design procedures
4. Process risk management
5. Management of change (MOC)
6. Process & equipment integrity
7. Human factors
8. Training & performance
9. Incident investigation
10. Company standards, codes & regulations
11. Audits & corrective action
12. Enhancement of process safety knowledge

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How to Implement a PS Management System

1. Assign a Process Safety Manager (or team)
2. Adopt a PS management system (CCPS or others)
3. Learn from the literature (check key references)
4. Learn by training (from process safety professionals)
5. Learn from other companies – align; network; participate in industry alliances
6. Note strong synergies with ISO, TQM, RMP, Responsible Care
7. Set some clear process safety goals (one to five years)
8. Track performance versus the goals on a regular basis
9. Reassess process safety plan & modify (every 3-5 yrs)
And now…

CCPS will help you by providing resources and peer input to develop and implement your process safety management system.
If you buy into these arguments, what steps can you take?

1. Appoint a single person to lead your effort – a project manager for Process Safety.

2. Next adopt a PS management system,

3. Learning phase - borrow from (1) the open literature, (2) training opportunities and (3) other companies by networking (CCPS).

4. Set clear goals for several years, and track performance.

5. Reassess the PS plan every few years and modify to assure your company is on a path of continuous improvement.