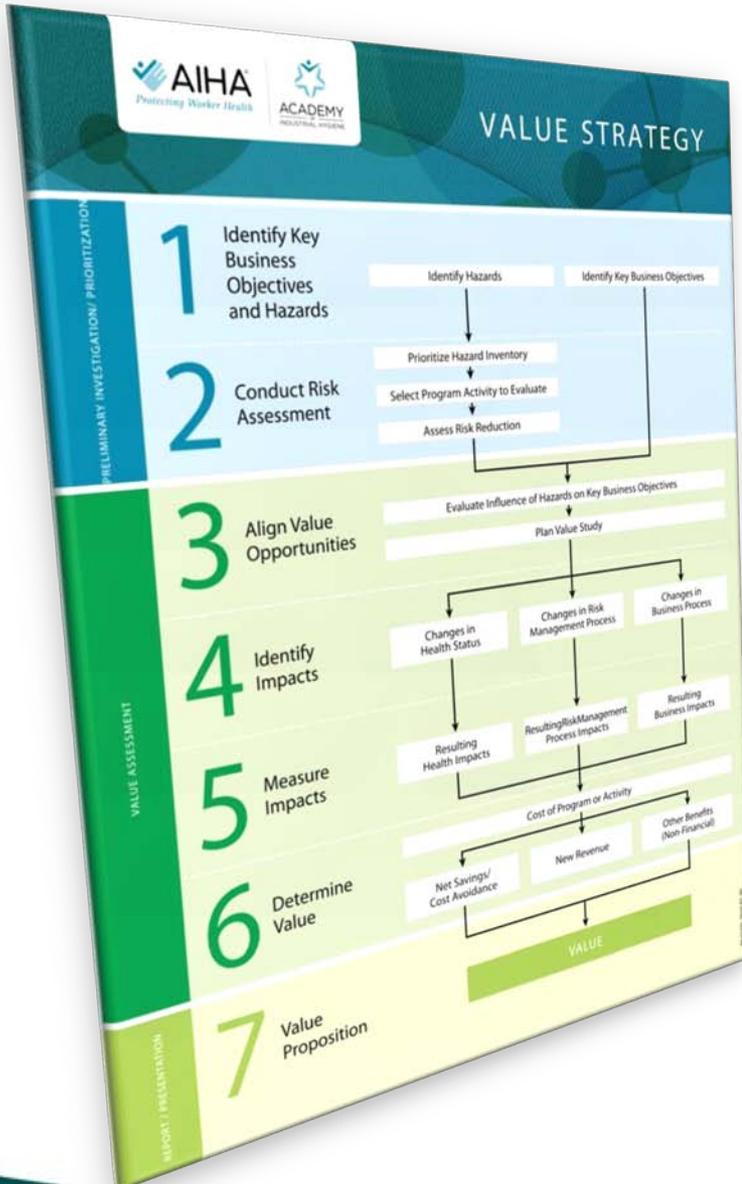


The AIHA Value Strategy

Presented at the 2011 NASA Occupational Health
Meeting: Albuquerque, NM, July 12, 2011

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Treasurer, AIHA



Step 1 Identify key business objectives and hazards

- Understand your stakeholders' priorities
- Examine organizational priorities

Business Value Prioritization

(Forced-pairs comparison method)

	Business sustainability	Excellence in EHS	Retain talented employees	Increase profits	Respect for the individual	Increase market share	TOTAL
Business sustainability		5	5	5	5	5	25
Excellence in EHS	1		5	5	1	1	13
Retain talented employees	1	1		3	1	5	11
Increase profits	1	1	3		1	1	7
Respect for the individual	1	5	5	5		1	17
Increase market share	1	5	1	5	5		17

Inventory and Risk Characterization Worksheet

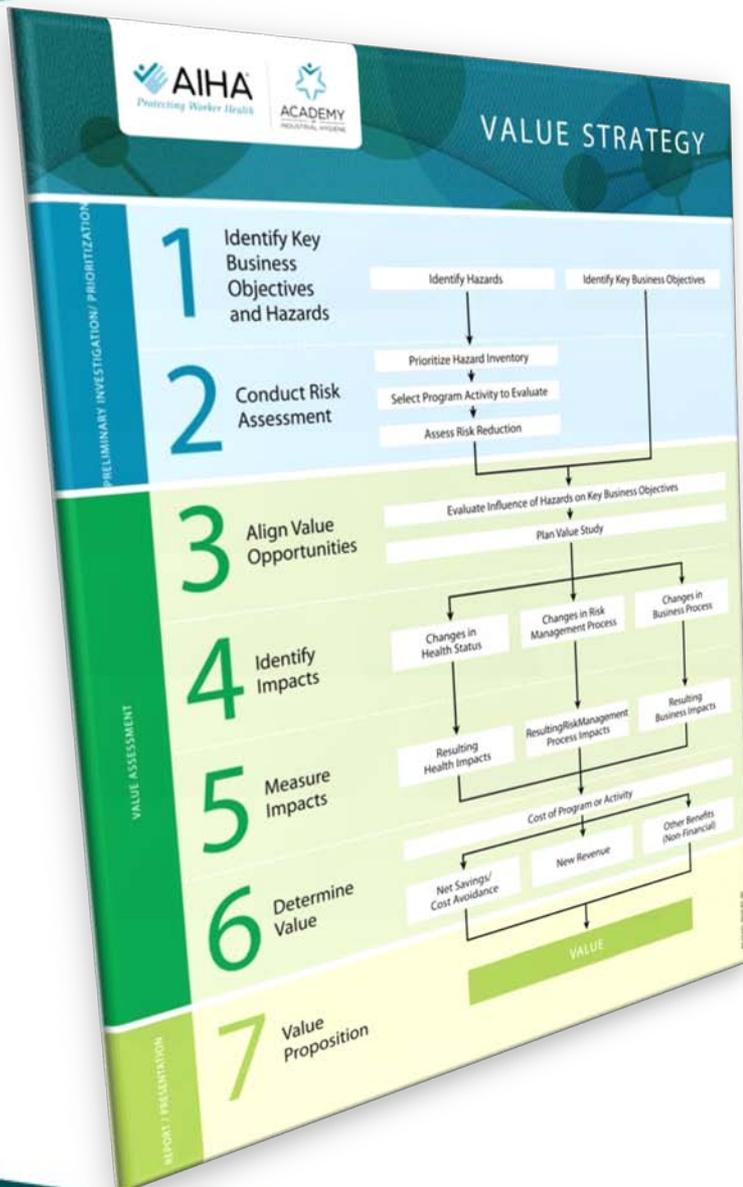
Corporation: PM Corporation

Site Location: Anywhere USA

Building/Process: Pharma Building

Hazard

Activity, Product or Service	EHS Aspect/Hazard	EHS Impact/Risk
Receive active ingredients	Generate dust	Resp. illness
Position LEV	Repetitive motion	Musculoskeletal disorder
Transfer contents to process	Generate dust	Resp. illness
Clean up	Generate waste	Haz. waste generation
Blending area	Noise = 85dBa	Hearing loss



Step 2 Conduct risk assessment

- Use existing and proven risk assessment method
 - AIHA Exposure Assessment Strategies
- Assess baseline risk
 - Determine status quo
- Develop relative ranking of prospective projects
- Compare baseline to post-intervention risk
- Evaluate prospective interventions
 - Engineering controls, work practices and procedures and PPE

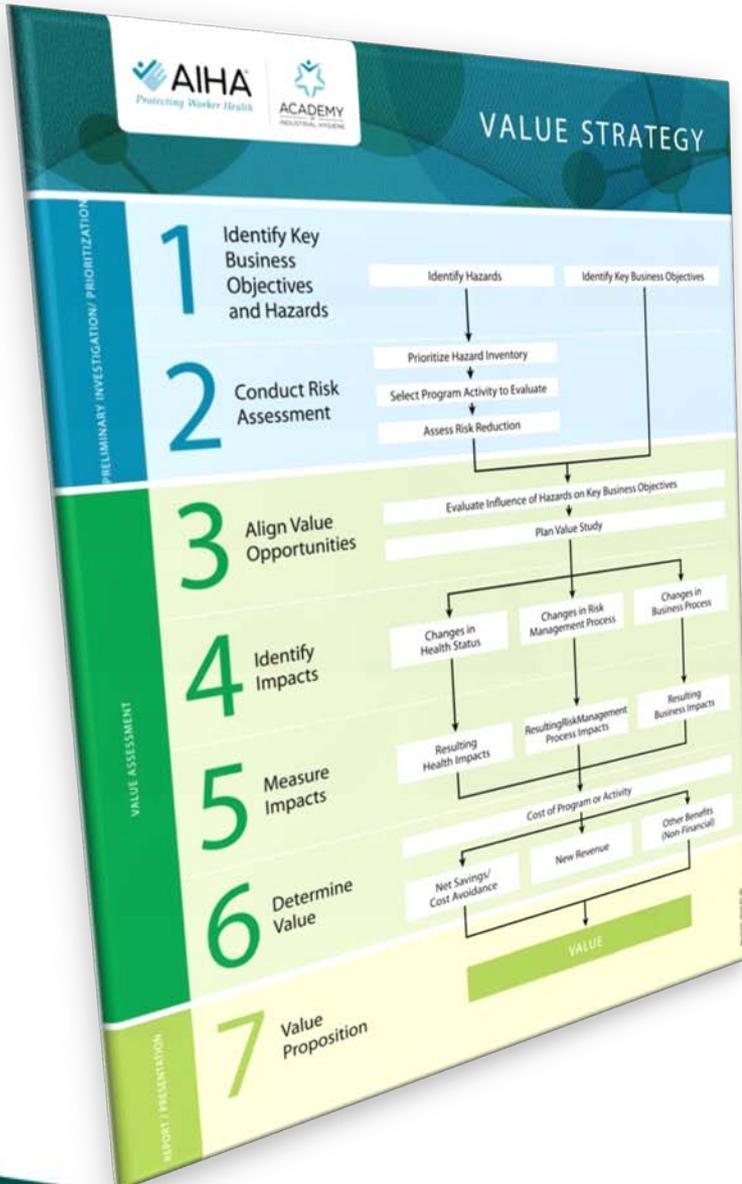
Evaluate risk reduction

- Use hierarchy of controls and reassess
- Compare projects, interventions or status quo

Health Effect Rating (Severity)	4	4	8	12	16
	3	3	6	9	12
	2	2	4	6	8
	1	1	2	3	4
		1	2	3	4
	Exposure Rating (Probability)				

Health Effect Rating (Severity)	4	4	8	12	16
	3	3	6	9	12
	2	2	4	6	8
	1	1	2	3	4
		1	2	3	4
	Exposure Rating (Probability)				

Determine potential risk reduction, then reassess



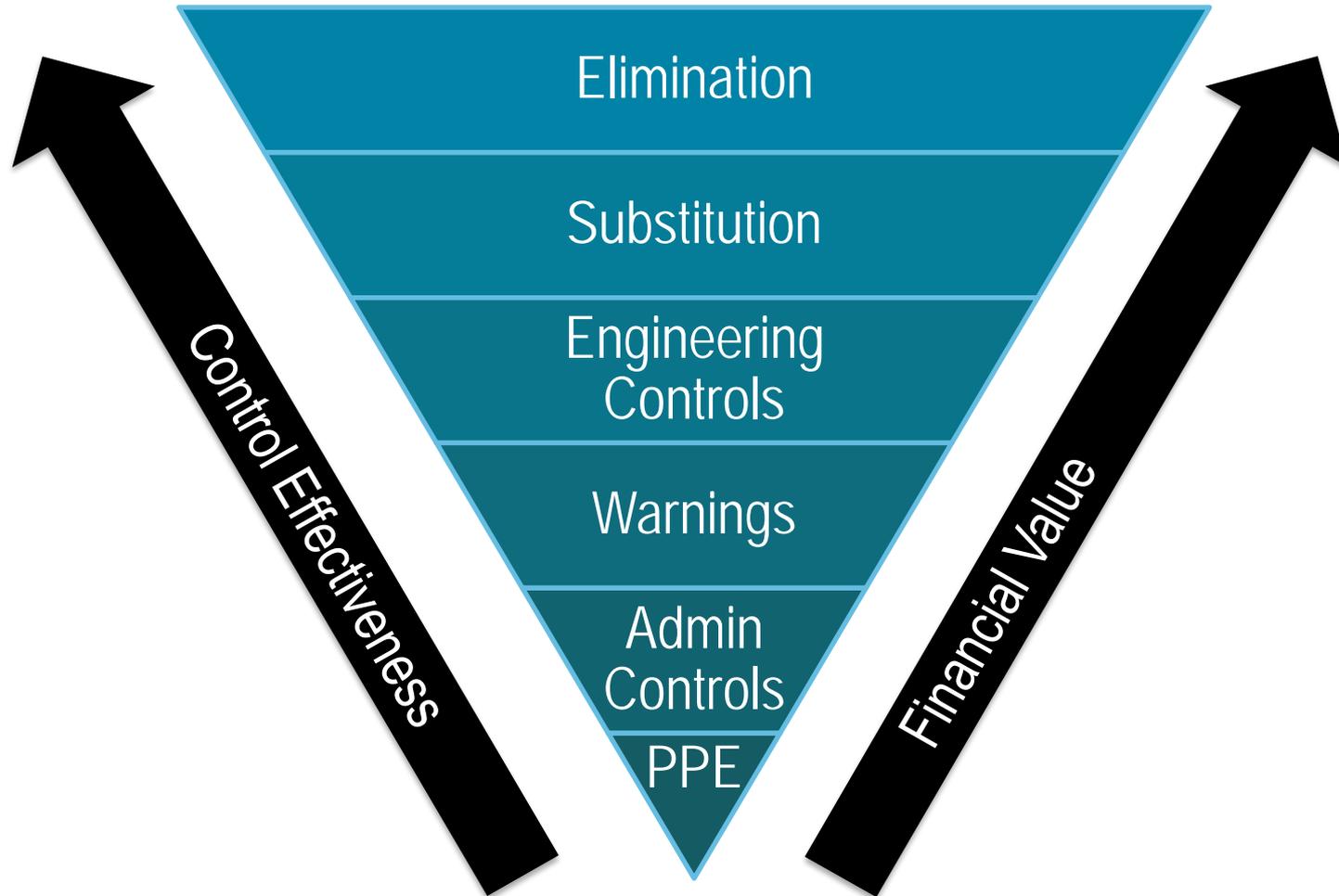
Step 3 Align value opportunities

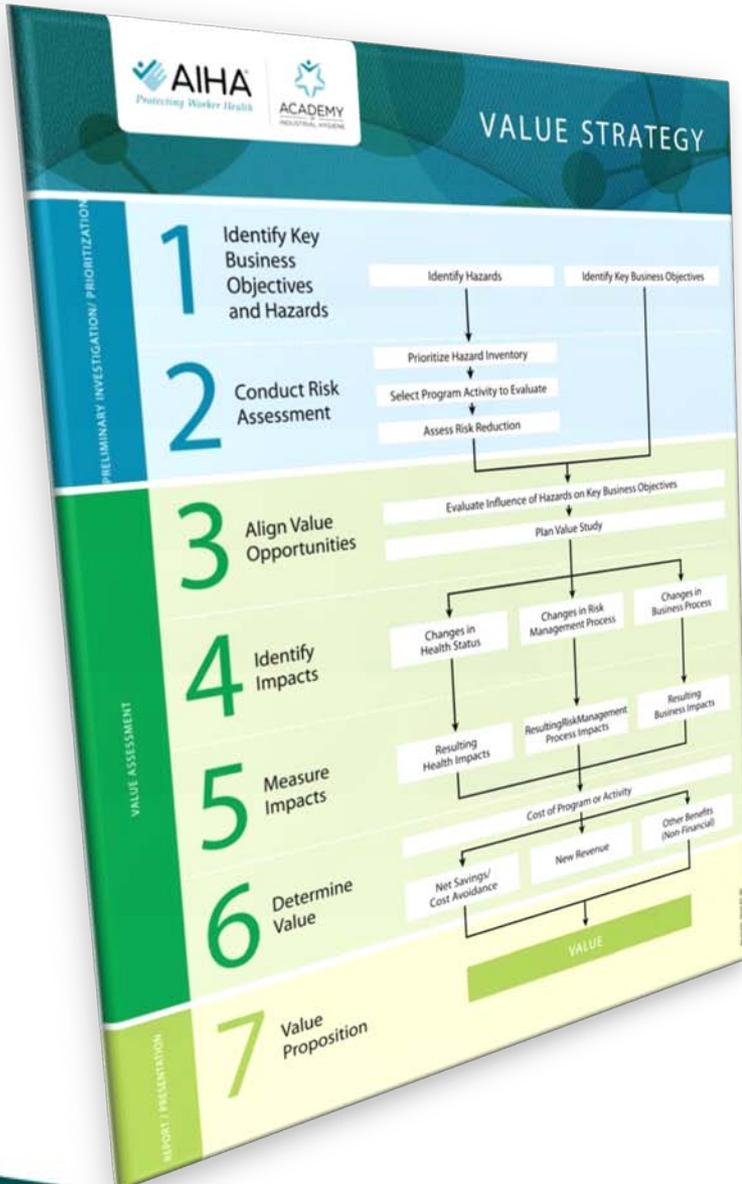
- Identify and prioritize value opportunities
 - Identify key business values
 - Work with a cross functional team
 - Evaluate how the IH intervention affects business values
- Plan the value study
 - Identify objective and options for intervention then develop SMART objectives

Value-weighted risk assessment

Value-Based Risk Assessment*			Frequency	Severity	F*S	Business sust...	Excellence in EHS	Retain talent...	Increase profits	Respect for...	Increase market...	Total
Area/Operation	EHS Aspect / Hazard Description	EHS Impact / Risk Description				21	13	11	7	17	17 ← VP	
Receive weighed active ingredients...	Generation of dust containing PM ...	Respiratory illness	3	5	15	1	4	4	3	4	2	3660
Position local exhaust ventilation near flange	Repetitive motion in handling parts	MSD	3	2	6	1	4	4	3	4	2	1464
Open bags; empty bags into processor	Generation of dust containing PM ...	Dermatitis	2	3	6	0	4	3	2	1	4	1104
Blending department	General work area noise (80 – 86 dBA)	Hearing loss	4	3	12	4	3	2	1	0	3	2628

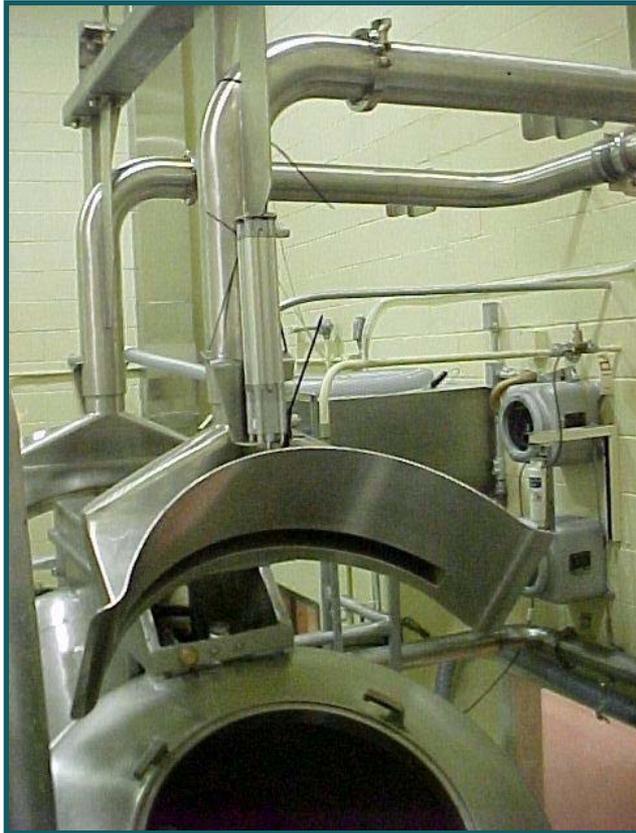
Identify alternatives



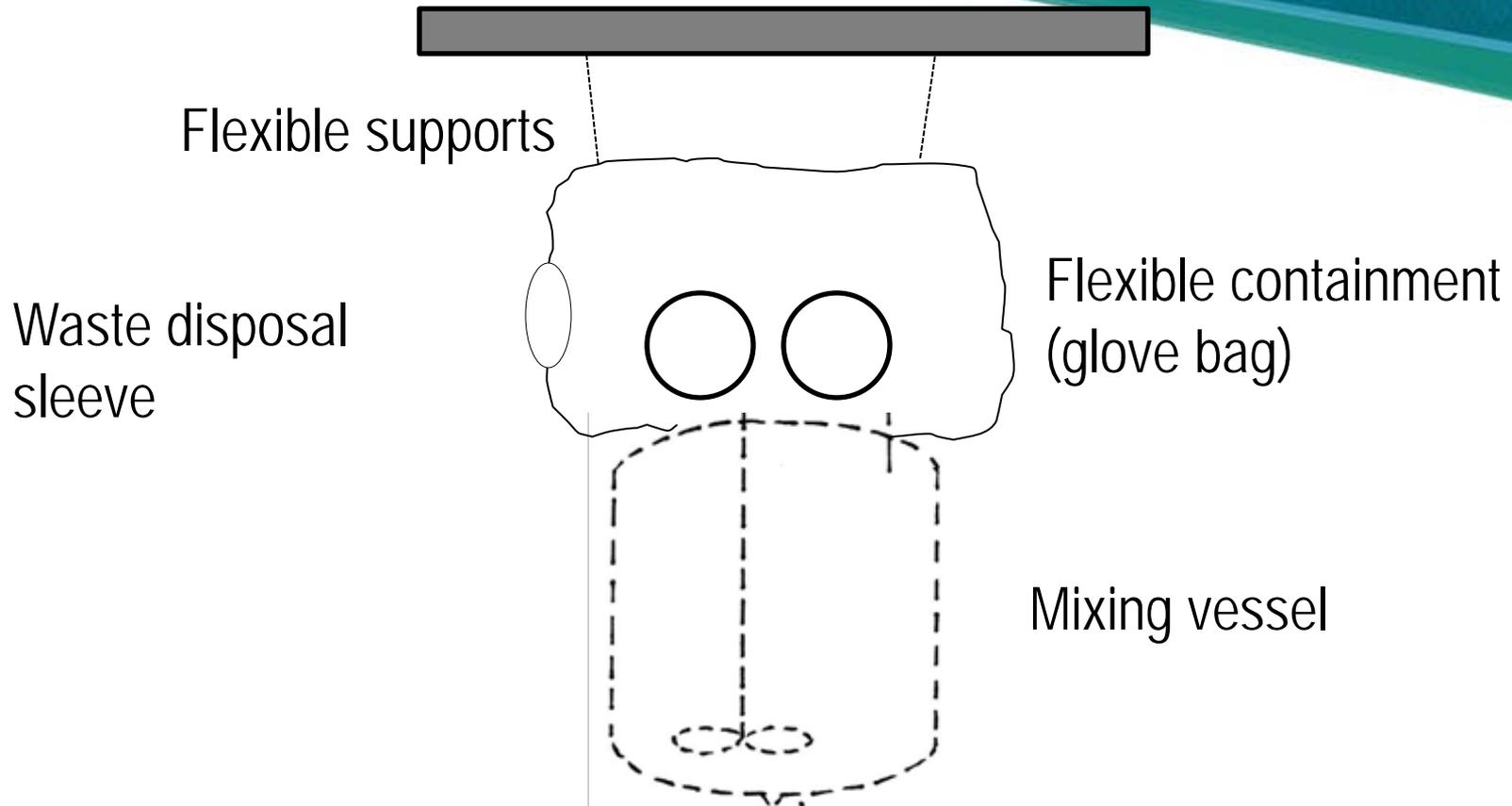


Step 4 Identify impacts

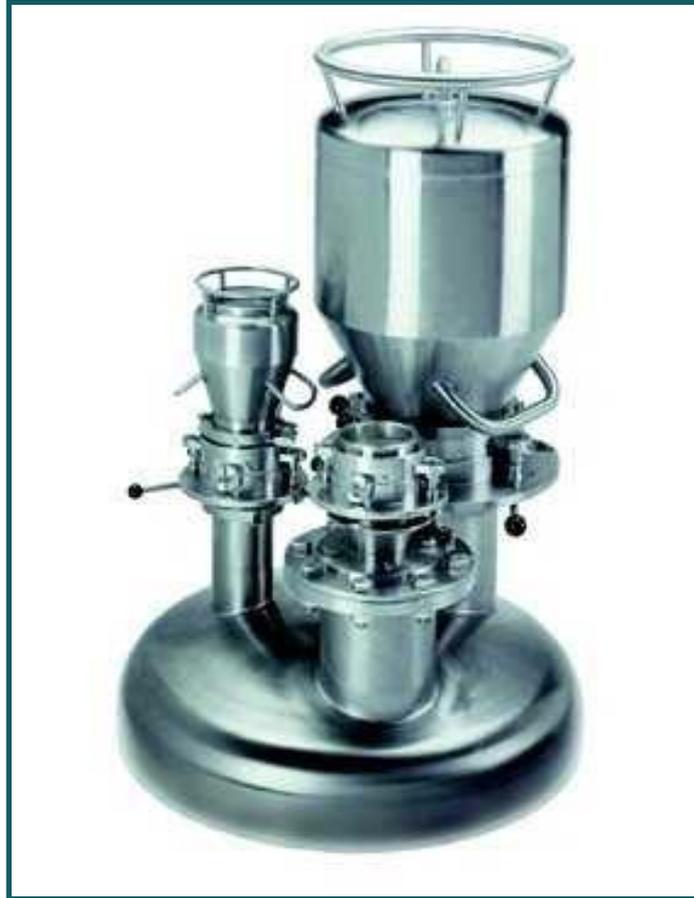
- Health impacts
- Risk management impacts
- Business impacts



Base case and option 1 LOCAL EXHAUST VENTILATION



Option 2 GLOVE BAG



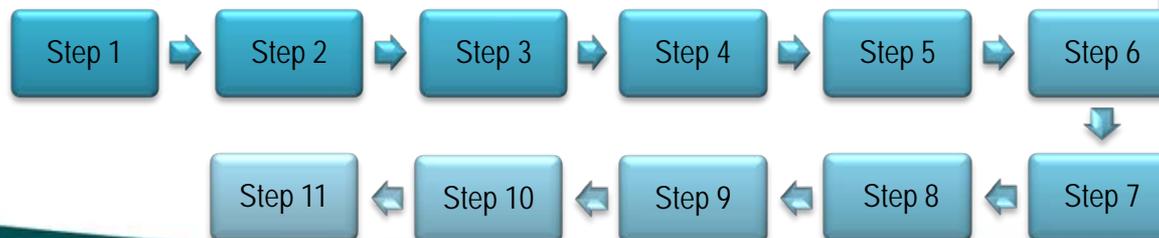
Option 3

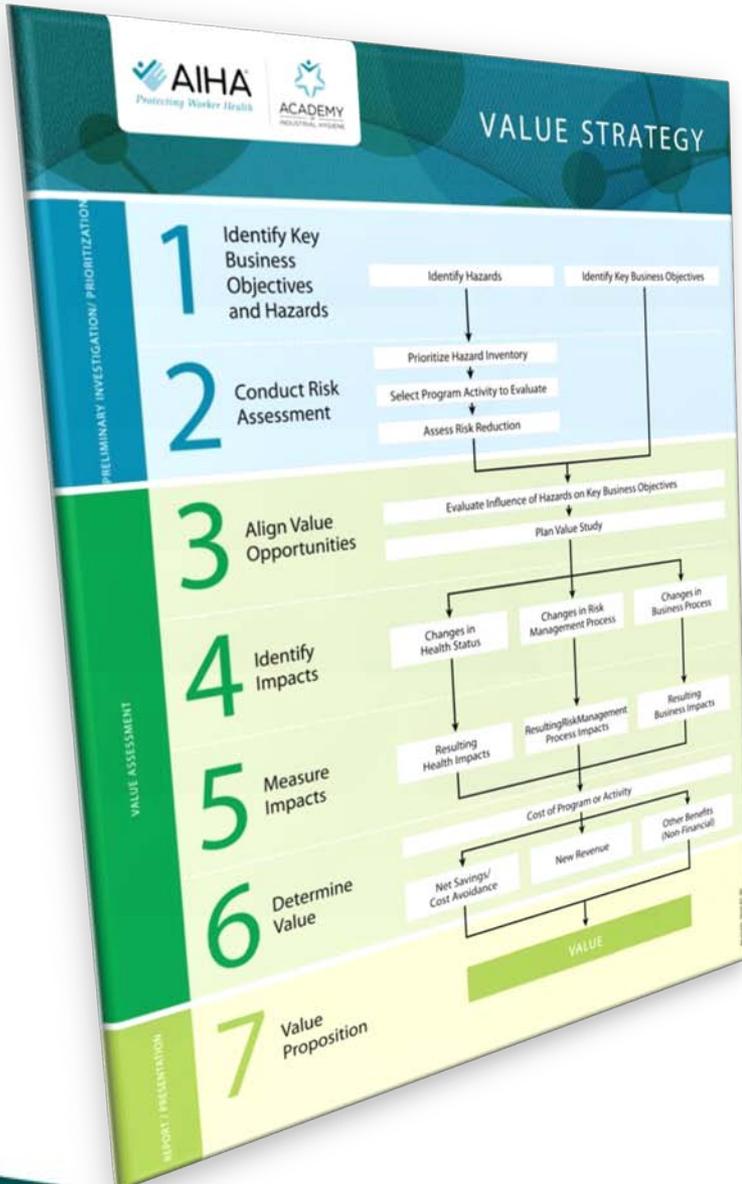
SPLIT BUTTERFLY HIGH CONTAINMENT VALVE

Potent pharmaceutical compound dispensing

Glove bag option

Support	Inputs	Process	Outputs	Customers	Requirements
<ul style="list-style-type: none"> • Trainers • Process engineering • Procurement • Finance • Central Weigh (CW) workers • Operations workers • Quality control • Environmental • Waste management • Facilities engineering • Employee health 	<ul style="list-style-type: none"> • SOP changes • Cleaning SOPs • Retraining • Bagging flange • Glove bags • Maintenance procedures • QC testing • Health surveillance procedures 		<ul style="list-style-type: none"> • Increased time • Increased steps • Increased complexity • Decreased exposure risk • Decreased room contamination • Decreased cross-contamination risk • Decreased dust migration • Improved tablet assay 	<ul style="list-style-type: none"> • Quality control • CW workers • Operations • Waste management • Environmental • Maintenance 	<ul style="list-style-type: none"> • No FDA process modifications • Worker exposures <10x OEL • Product quality and dose conformity • No cross-contamination • Minimal dust migration





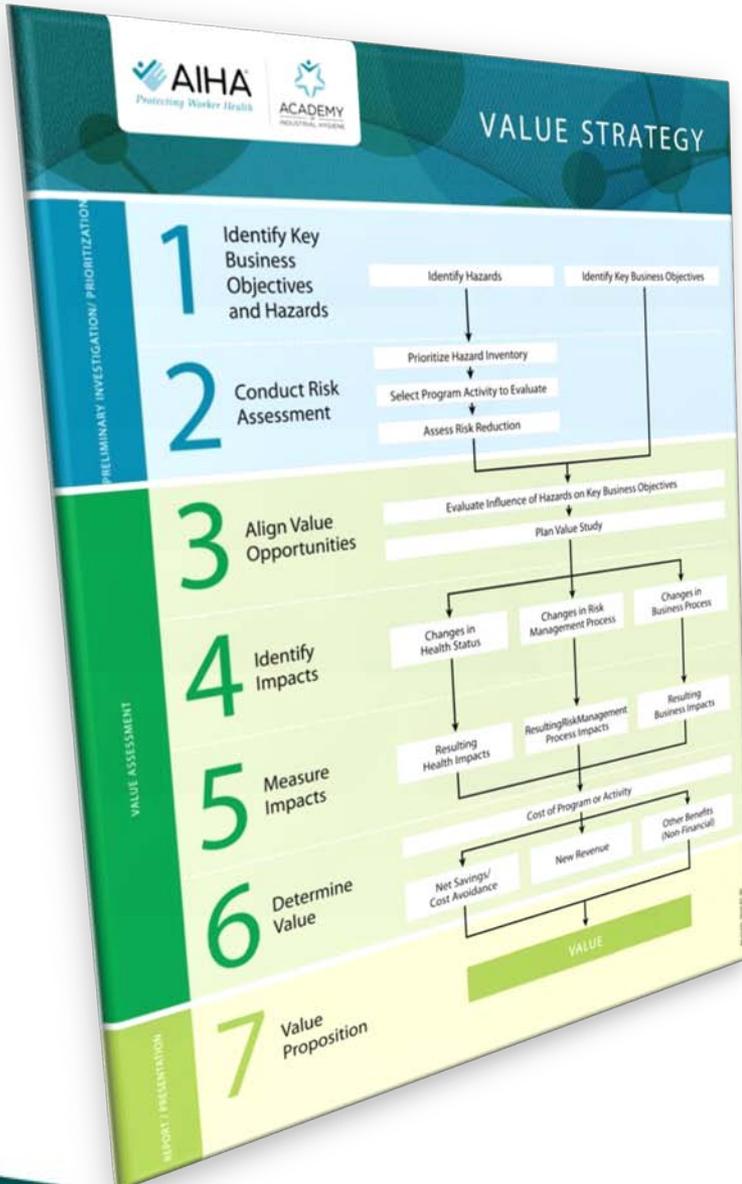
Step 5 Measure impacts

Assess the impacts associated with the changes from the proposed intervention

- Health status
- Risk management
- Business process

Determine individual costs

Health and Safety Program Administration	Current Costs (per year)			Expected Costs from Proposed Change (by year)			
	Units/Year	Unit Cost	Current Cost	Units/Year	Unit Cost	Year 1	Year 2
Program implementation - Costs to implement programs							
Labor cost associated with worker training	50	\$39	\$1,950	50	\$39	\$1,950	\$0
Medical exams	50	\$15	\$750			\$0	\$0
Fit Testing	50	\$10	\$500			\$0	\$0
Personal Protective Equipment							
Respirators	20	\$300	\$6,000			\$0	\$0
Respirator cartridges	9636	\$12	\$115,632			\$0	\$0
EHS administrative duties - Costs to administer EHS programs							
Respiratory program maintenance and review	15	\$50	\$750			\$0	\$0
IH monitoring and laboratory costs	12	\$125	\$1,500	8	\$125	\$1,000	\$1,000
Administrative time associated with IH monitoring	48	\$50	\$2,400	32	\$50	\$1,600	\$400
<i>Subtotals</i>			\$129,482			\$4,550	\$1,400



Step 6 Determine value

- Financial benefits
 - Net savings
 - Cost avoidance
 - New revenue
- Showing economic feasibility
- Financial terms and calculations
- Non-financial benefits

ABC Company

Financial summary

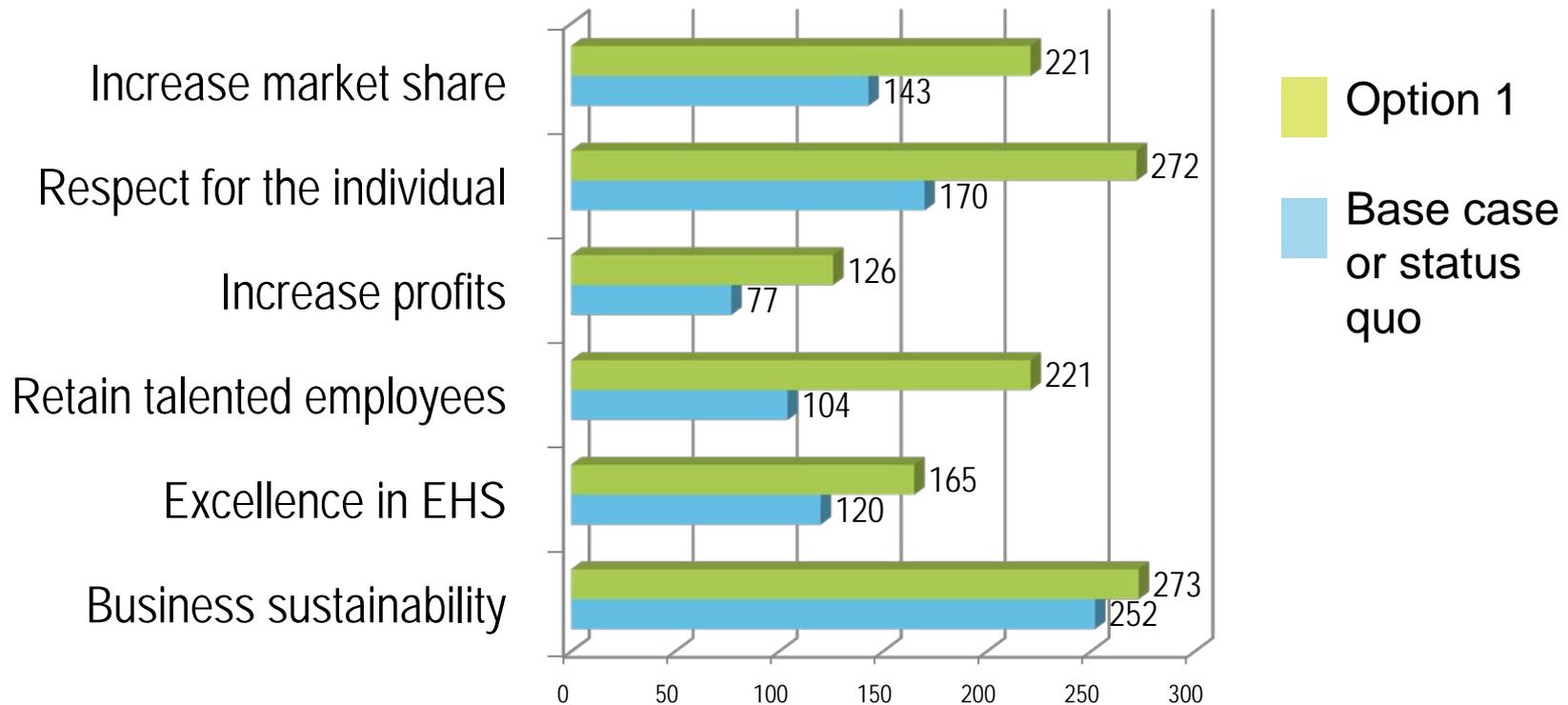
Net Cash Flow	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Net cash flow	-\$1,000	\$350	\$350	\$350	\$350	\$350
Present values	-\$1,000	\$318	\$289	\$263	\$239	\$217
<i>NPV = \$326</i>			<i>Simple payback = 1.33 years</i>			
<i>IRR = 11%</i>			<i>Discounted payback = 3.06 years</i>			
<i>Simple ROI = 75%</i>			<i>Simple unit cost impact = -15¢</i>			
<i>Discounted ROI = 32.7%</i>			<i>Disc'd unit cost impact = -6.5¢</i>			

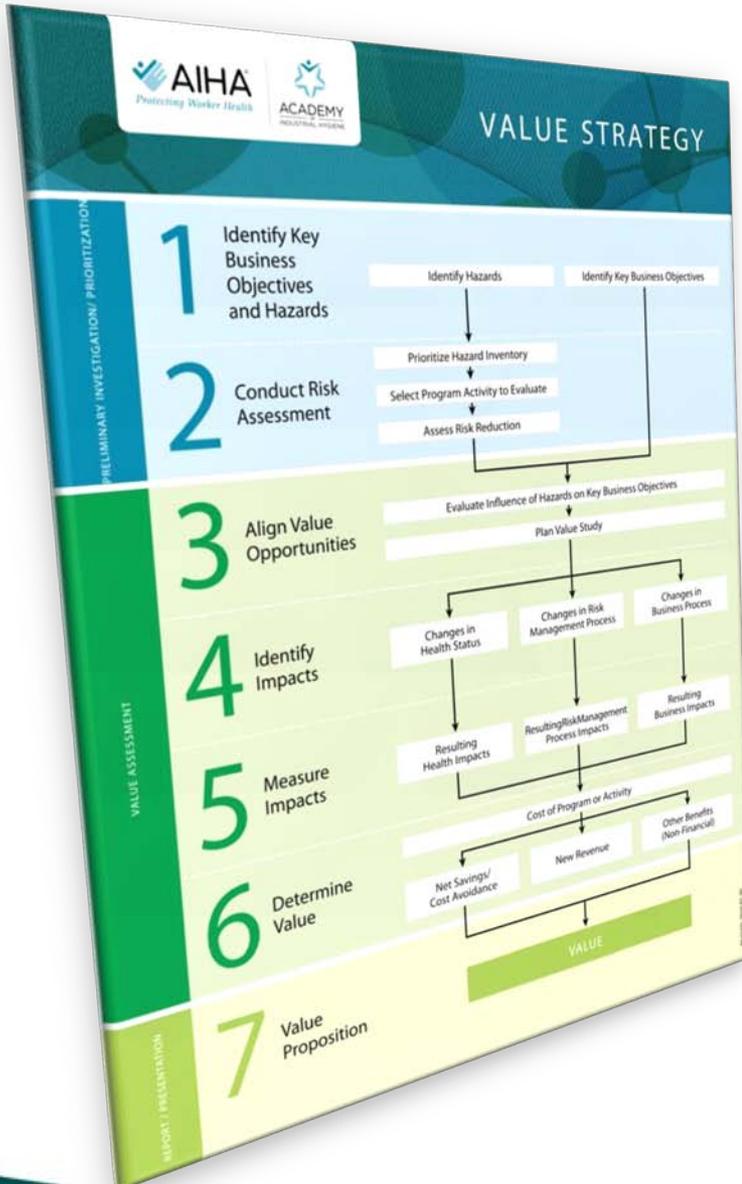
NFB analysis of proposed project

EHS environment with new control Glove bag		Benefit 1 Increased revenues		Benefit 2 Enhanced corporate image		Benefit 3 Increased customer
Business Objective	Weight	Score	Wt Score	Score	Wt Score	Score
Business sustainability	21	4	84	4	84	3
Excellence in EHS	15	3	45	4	60	0
Retain talented employees	9	1	9	4	36	2
Increase profits	7	2	14	3	21	4
Respect for the individual	17	2	34	2	34	3
Increase market share	21	4	84	2	42	3
		Total:	270	Total:	277	Total:

Impact on BUSINESS OBJECTIVES

Option 1 vs. base case/status quo

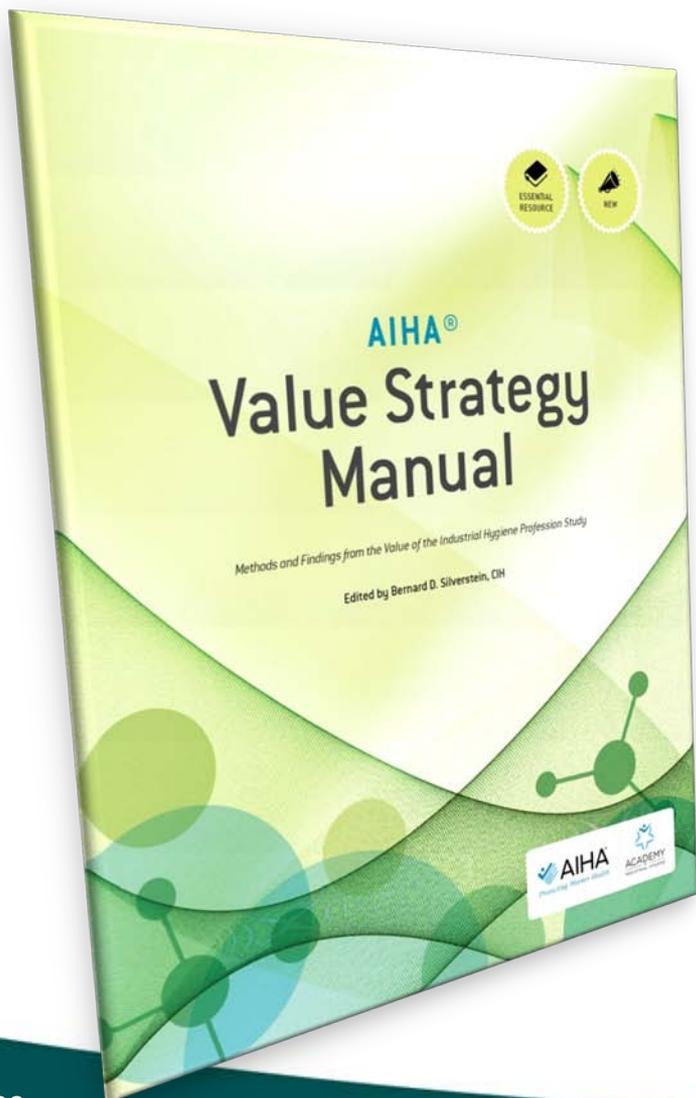




Step 7 Develop value proposition

- SMART objectives
- Corporate and project assumptions
- Financial and non-financial benefits
- Project metrics
- Other items
- Implementation plan
- Risk assessment

Final thoughts



Apply the AIHA Value Strategy

Learn this new competency to...

- Gain support for your EHS interventions
- Be part of the decision making team
- Achieve organizational goals
- Continue to protect worker health