Achieving Operating Excellence

PlantSuccess Regional Conference – Chicago, April, 2002

The Expectation

Excellent Performance is expected in:

- Personnel Safety
- Process Safety
- Environmental
- Product Quality
- Reliability
- Energy and Other Variable Cost Efficiency
- Fixed Cost
- Staffing Levels

With

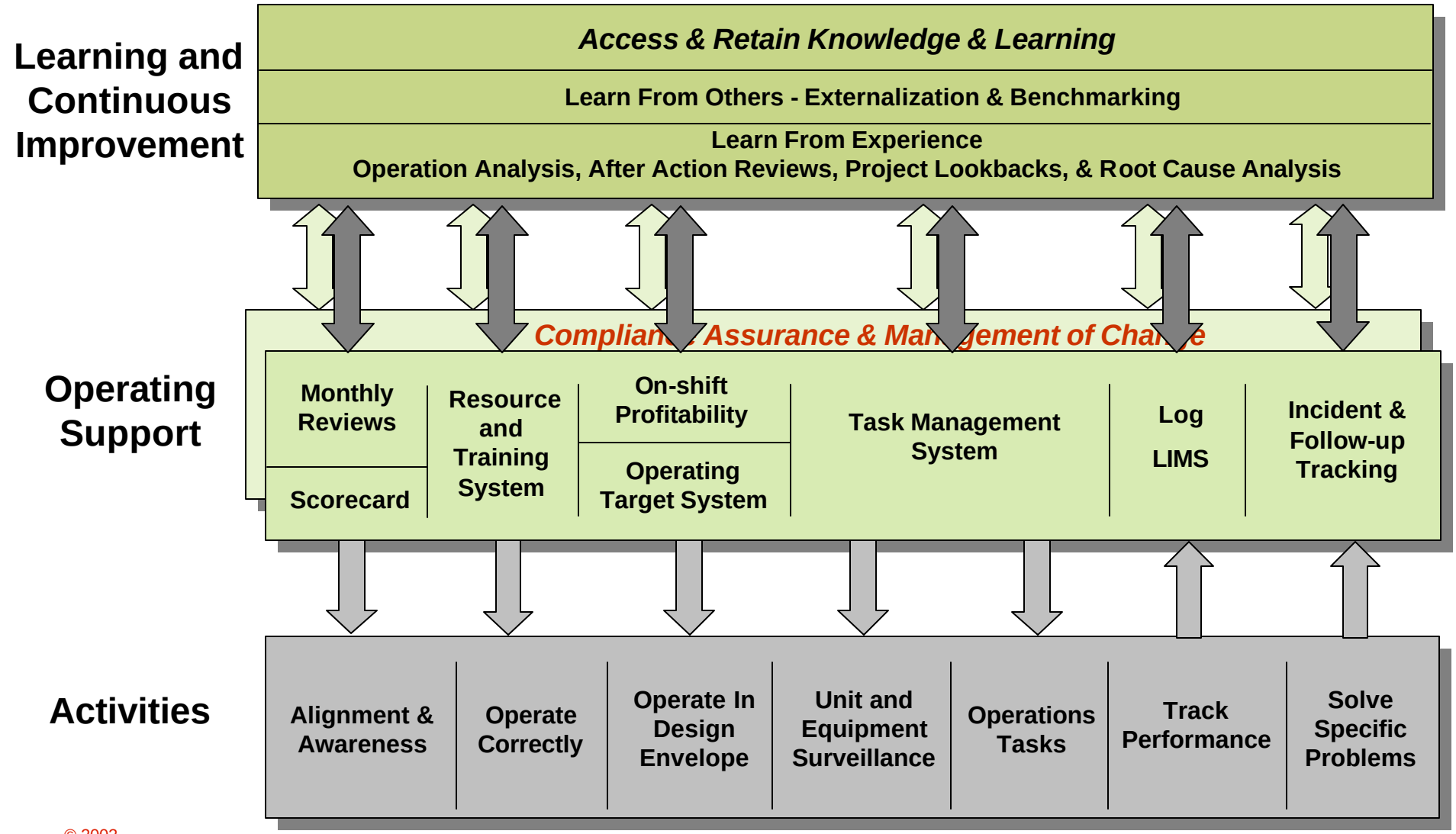
No Backsliding

Continuous Improvement

The Prize

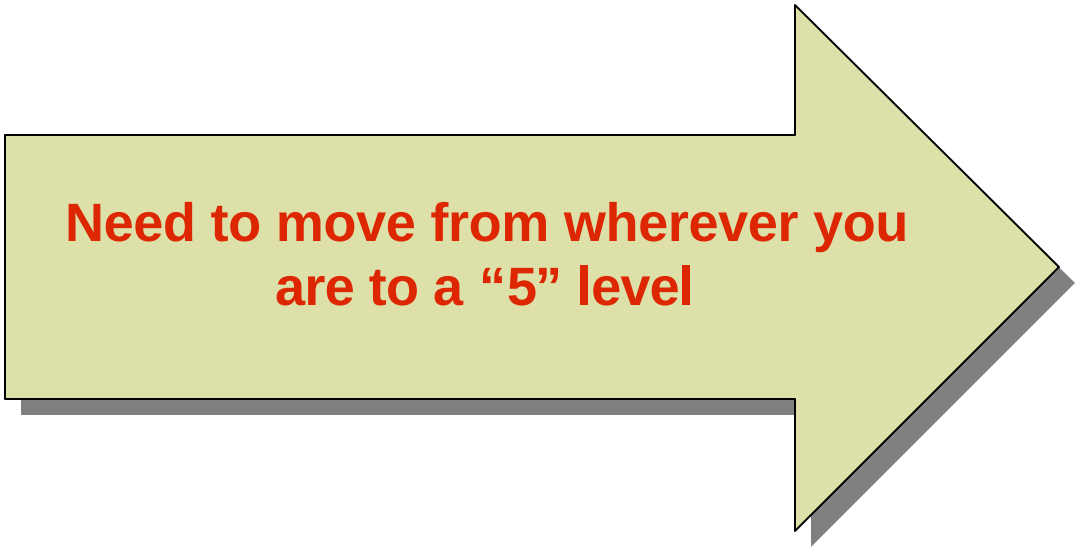
- $15 – 25 million annually
- Improved Personnel and Process Safety
- Improved Environmental Performance
- Improved HSE Compliance

The Plant Management Model



Five Practice Levels

	Ad Hoc 1	2	3	4	Best Practice 5
Alignment & Awareness					
Operate Correctly					
Operate in Design Envelope					
Unit and Equipment Surveillance					
Operations Tasks					
Track Performance					
Solve Specific Problems					
Compliance Assurance					
Learning & Continuous Improvement					



Practice Evaluation Matrix

	Ad Hoc 1	2	3	4	Best Practice 5
Alignment & Awareness					
Operate Correctly					
Operate in Design Envelope					
Unit and Equipment Surveillance					
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Solve Specific Problems					
Compliance Assurance					
Learning & Continuous Improvement					

Alignment and Awareness

Ad Hoc — Best Practice

1	2	3	4	5
Top levels only	Top levels & Managers	Top levels, Managers, & Supervisors	Top levels, Managers, Supervisors, & some employees	All employees

Annual and monthly business and operating plans, along with milestones, goals and objectives are known by:

Communication of progress toward the business and operating plans is known by:

Communication of business reviews, operations reviews, management messages, and plant scorecards, & KPI's, are available and used by:

Totally false	Mostly false	Half way there	Mostly true	Totally true

All employees can directly show their individual progress to their goals and how the goals effect the business. Goals extend across all individuals, groups, units, etc. and cover all elements such as Safety, Environmental and Business.

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Operations Tasks

Ad Hoc — Best Practice

1	2	3	4	5
Totally false	Mostly false	Half way there	Mostly true	Totally true

Inspection and operator maintenance tasks are identified in a structured process.
Maintenance and Turnaround Tasks are justified based on the Value to the Business via a Gatekeeper or the requestor themselves.
The structured task identification process includes participation of appropriate technical support staff.
Tasks are evenly distributed across the qualified workforce and scheduled using appropriate computerized management tools
Records of task completion are maintained and can be easily referenced. Exception reports of missed tasks are used.
Task Management Tools between different groups and operations are appropriately integrated to ensure effective hand offs or are exactly the same.
A common language is leveraged to clarify equipment conditions and task completions between different groups to facilitate hand-offs.

Operate Correctly

Ad Hoc — Best Practice

1	2	3	4	5
Totally false	Mostly false	Half way there	Mostly true	Totally true

Procedures and Resource Materials are up to date, used daily and continuously improved.
All operators are knowledgeable, skilled, well trained, and competent in their specific jobs.
Operators write, maintain and feel ownership of procedures, training, and resource materials.
Knowledge, skills, and proficiencies for each job are defined, tracked, and enforced.
Learning and training is available for all knowledge, skills, and proficiencies needed. Proficiency demonstration and mastery quizzes are available.
Mandatory training and proficiency requirements are defined, tracked, and enforced.
Development and training activities are consistent across plant.
Operators feel responsible for reliability, quality, maintenance, and production improvements in their plant.

Operate In Design Envelope

Ad Hoc — Best Practice

1	2	3	4	5
Totally false	Mostly false	Half way there	Mostly true	Totally true

Safety, environmental, and efficiency envelope is defined using a structured process involving operators, crafts, and all appropriate support personnel.
Design envelope is appropriately documented and current operation is verified to be within design envelope each shift.
Changes to design envelope are appropriately managed using a structured "Management of Change" process and documented
Representative of Operations participates in new facility design teams and reviews such as operability and HAZOPS

Unit and Equipment Surveillance

Ad Hoc — Best Practice

1	2	3	4	5
Totally false	Mostly false	Half way there	Mostly true	Totally true
Surveillance is designed with participation of operators and appropriate technical support staff.				
Appropriate job aids are provided to ensure effective and complete surveillance.				
Operators fix minor problems during their surveillance rounds.				
Operators routinely write work orders to do PM for problems noticed during their surveillance rounds.				

Track Performance

Ad Hoc — Best Practice

1	2	3	4	5
Totally false	Mostly false	Half way there	Mostly true	Totally true

Performance is tracked with individual scorecards. At any point in time, performance is known.
A continuous improvement loop is evident. Progress is tracked. Shortfalls are identified immediately and addressed.
Performance is tracked in all appropriate areas: Safety, Environmental, Costs, Production Losses, Reliability, etc. Occurrence of an incident is established using objective standards based on goals and objectives and established capabilities and constraints.
Goals and objectives, budgets, and other plans start with analysis of past performance compared to previous plans.
Resources for problem solving or improvement efforts are assigned basis performance gaps.

Solve Specific Problems

Ad Hoc — Best Practice

1	2	3	4	5
Totally false	Mostly false	Half way there	Mostly true	Totally true

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Resources for problem solving or improvement efforts are assigned basis performance gaps. Goals and objectives "material balance" with available resources.
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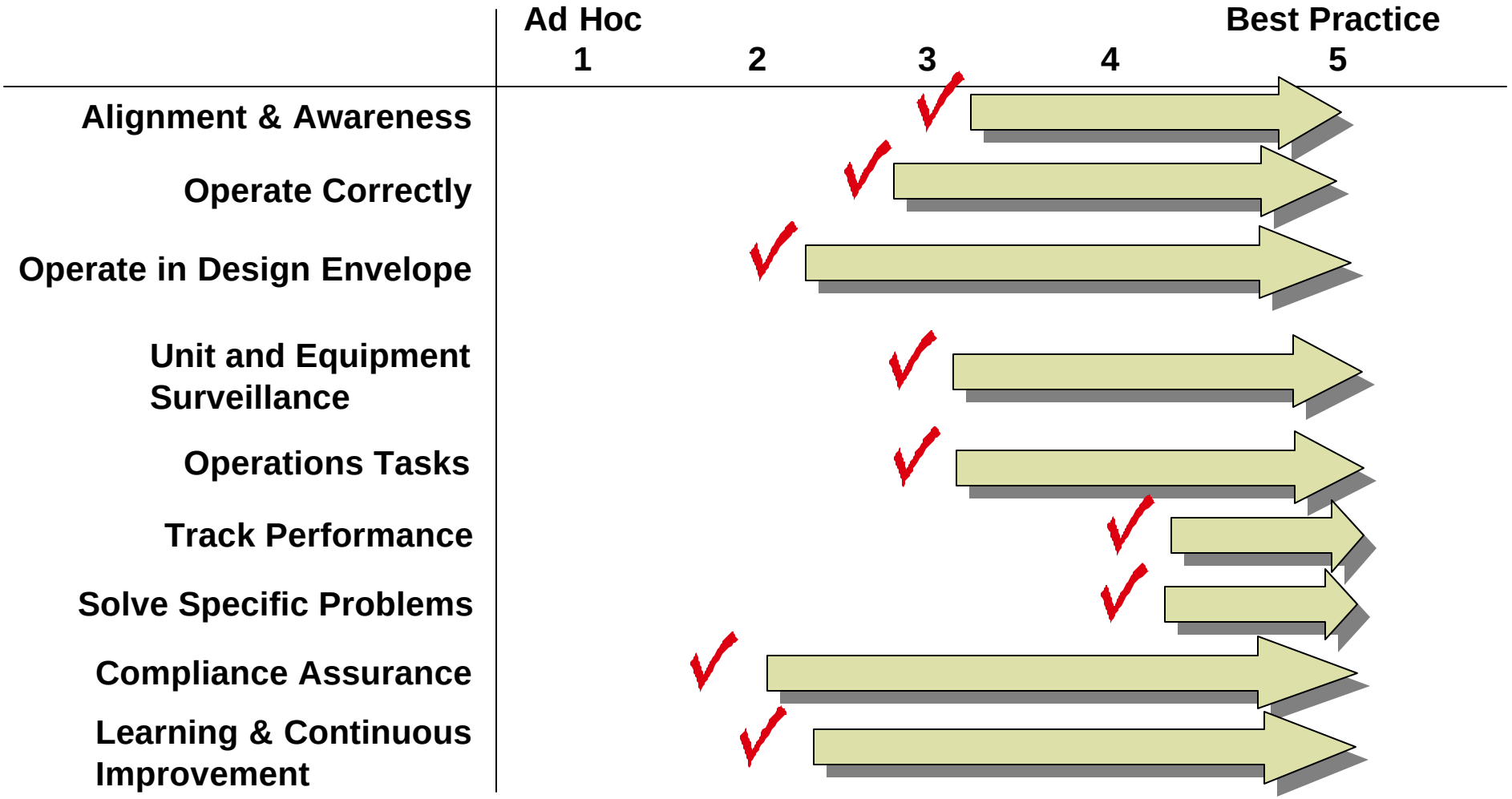
Learning and Continuous Improvement

Ad Hoc — Best Practice

1	2	3	4	5
Totally false	Mostly false	Half way there	Mostly true	Totally true
A Knowledge Management System is available to all employees and is effectively used.				
Decisions are fact based. Root cause analysis, After Action Reviews, and Project Lookbacks are routine.				
The organization is transparent, the management is not punitive, and the employees are not defensive.				
Continuous improvement is the norm not just a slogan.				

Typical Evaluation



What is it worth to you?

	%	$ million annually
Safety and Environmental		
Product Quality		
Capacity Utilization		
Mechanical Availability		
Fixed Cost		
Variable Cost		

Priority Definition

$$\text{Priority} = \frac{\text{Gap} * \text{Value}}{\text{Effort}}$$

Priority - Quantification

	%	$m/year	Gap	Effort *	Priority
Alignment and Awareness	15	3.75	2	3	10
Operate in Design Envelope	30	7.5	2.5	2	37
Unit and Equipment Surveillance	10	2.5	2.5	1	30
Operations Tasks	15	3.75	3	3	15
Track Performance	10	2.5	3	2	13
Solve Specific Problems	5	1.25	2.75	1	13
Compliance Assurance	- -	- -	- -	- -	- -
Learning & Continuous Improvement	15	3.75	3	3	15
		25.0		15	

* Effort in work-years – notionally 7 people for 2 years plus a supervisor.

Priority – Your Operation

	%	$m/year	Gap	Effort	Priority
Alignment and Awareness					
Operate in Design Envelope					
Unit and Equipment Surveillance					
Operations Tasks					
Track Performance					
Solve Specific Problems					
Compliance Assurance					
Learning & Continuous Improvement					

Summary

- If you continue to do what you've done you'll get what you've got.
- It's a journey; not a project.
- You and your employees can enjoy your work and have a winning spirit.

Contact Information

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