

Effective Operational Discipline Programs

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“Sustained great results depend upon building a culture of self-disciplined people who take disciplined action.”

- Jim Collins, *Good to Great* -

Effective Operational Discipline Programs

- **Are you happy with your PSM performance?**

- **Purpose**

Review effective approaches for understanding, evaluating, and improving operational discipline

- **Agenda**

- Journey to OD... and beyond
- Benefits of OD
- Understanding OD
- Evaluating and improving OD

Journey to OD

People make mistakes!

- Human fallibility, capability, complacency, and commitment
- Training issues, including procedure quality and training effectiveness
- Workplace environment, including accessibility of information and distractions
- Familiarity with the work being done and the time since it was last done
- Fitness-for-duty considerations, such as alcohol, drugs, stress, and fatigue
- Urgency for completing a task quickly

A Simplified View of Human Error

What is the probability that a routine task will be completed correctly every day for a year?

LOPA human error rate: 1 in 100 (typical)

$$P(1 \text{ year}) = (1-.01)(1-.01)\dots = (0.99)^{365} = \mathbf{2.6\%}$$

$$P(1 \text{ year}) = (0.999)^{365} = \mathbf{69.4\%}$$

$$P(5 \text{ years}) = (0.999)^{1825} = \mathbf{16.1\%}$$

Managing Process Safety

We need good work practices and must meet regulatory requirements! **(systems)**



We need to follow our systems to get improved performance! **(OD)**

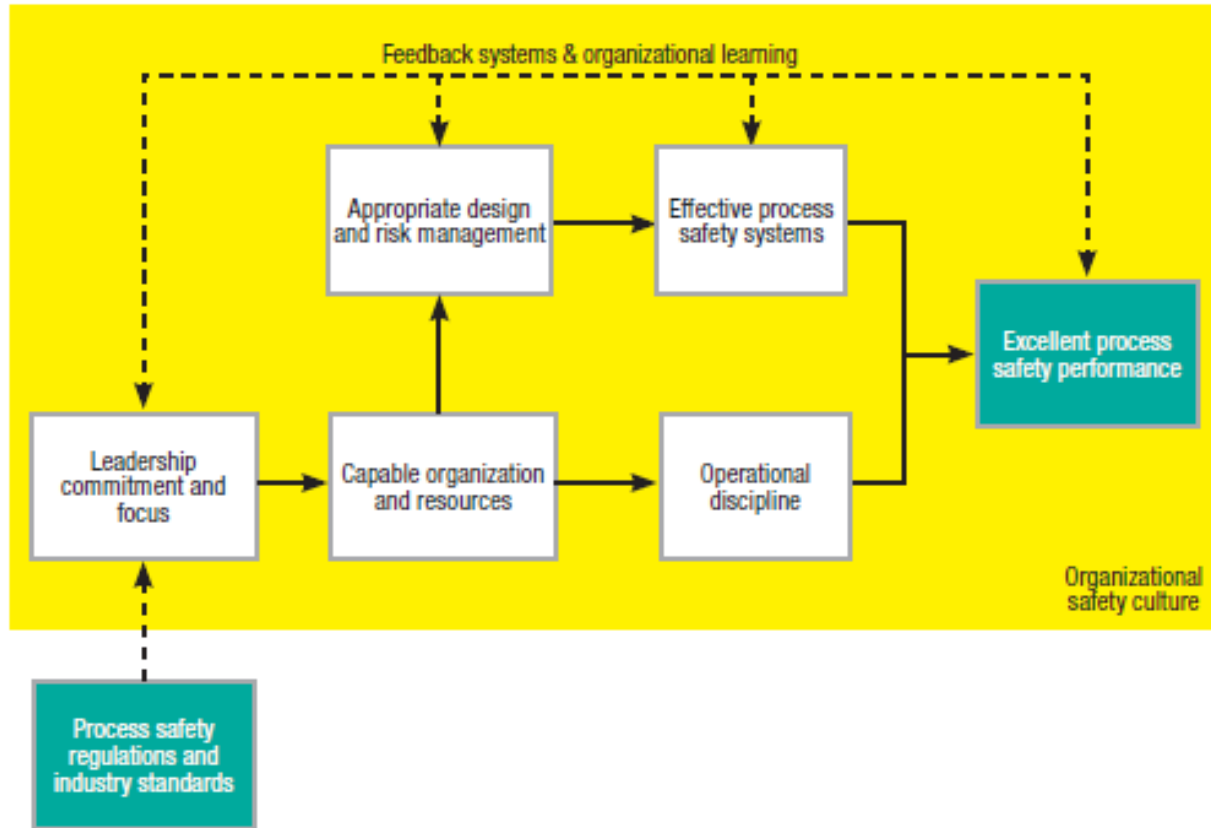


We need to define and support our culture to achieve and sustain improved performance! **(safety culture)**

Effective Process Safety Programs

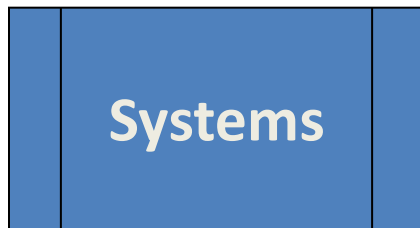


PSM Performance “Model”

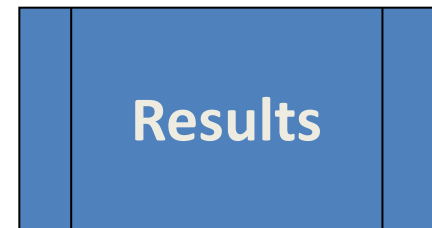


Benefits of Effective OD Programs

- **Operations** – improved efficiency, productivity, and cost in support of achieving world class manufacturing goals
- **Safety, Health and Environmental (SHE)** – prevention or reduction of workplace injuries/incidents, exposures, fires, environmental releases, and associated costs
- **Quality and Waste** – reductions in off-specification product, rework and waste costs, low yields, poor quality, and customer complaints



Concept



Reality

Effective OD Programs Improve Safety

Catastrophic Incidents/Injuries →

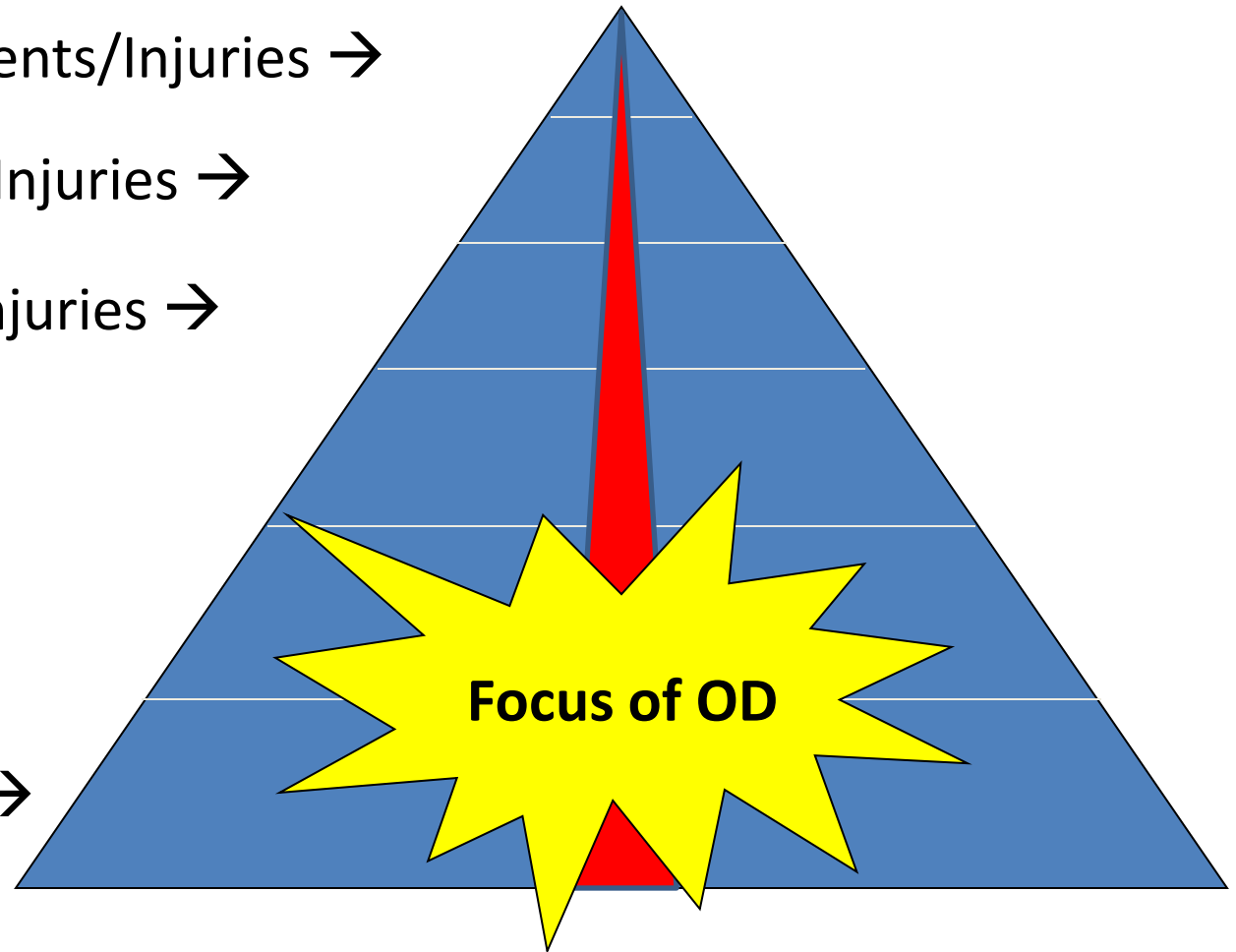
Serious Incidents/Injuries →

Minor Incidents/Injuries →

Near Misses →

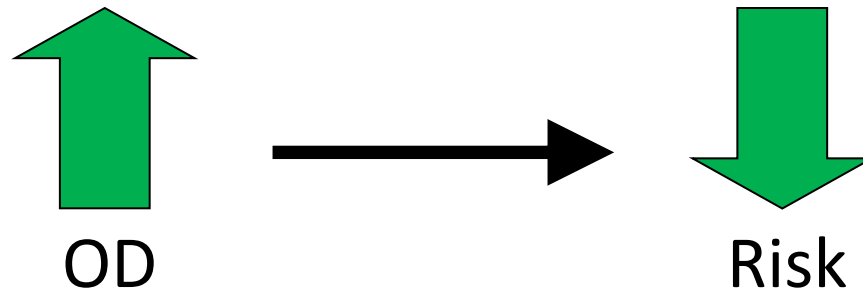
Unsafe Acts →

Undesirable Acts →

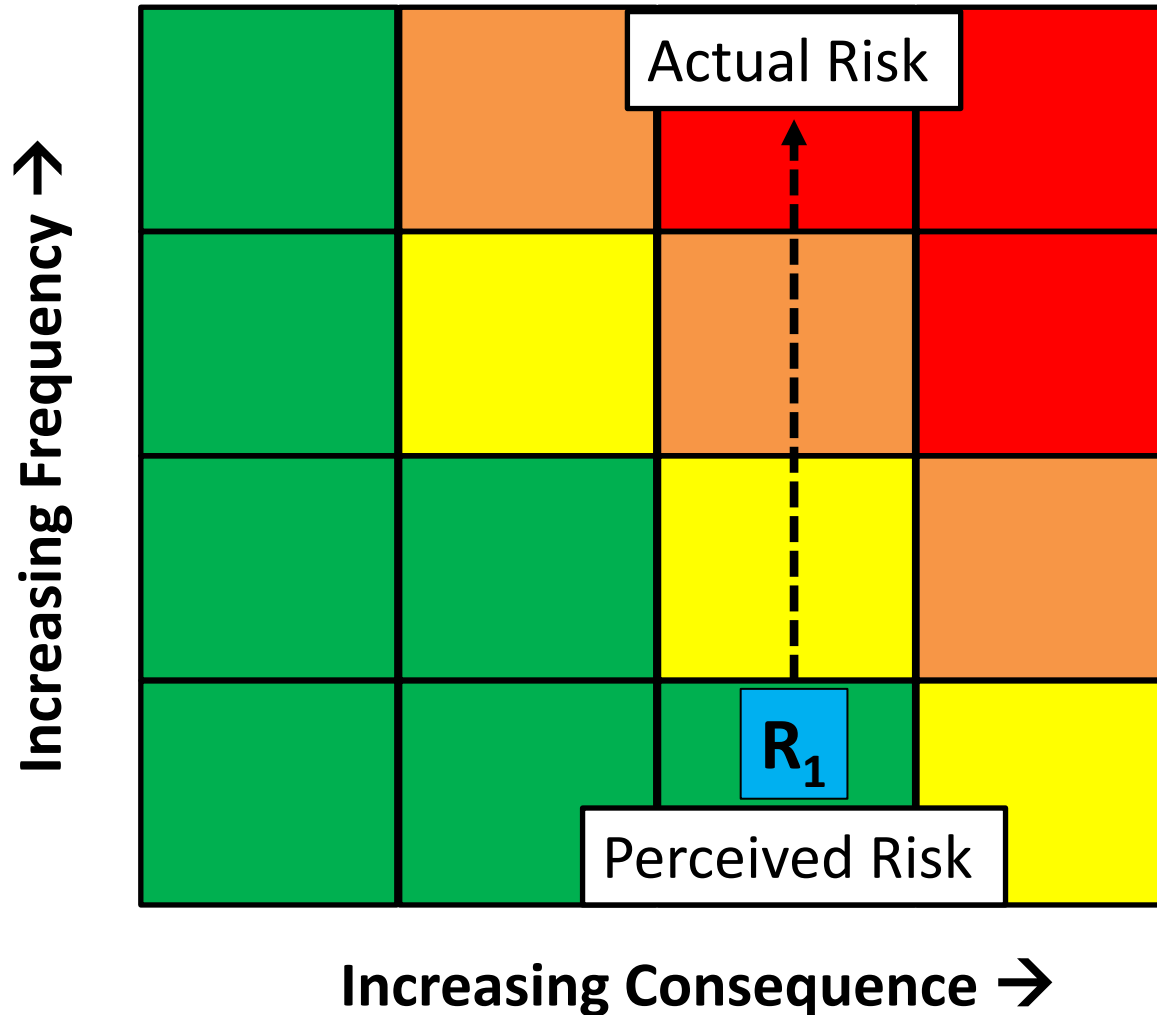


Effective OD Programs Decrease Risk

$$\text{Risk} = \frac{\text{Frequency} \times \text{Consequence}}{f(\text{Operational Discipline})}$$



Effective OD Programs Decrease Risk



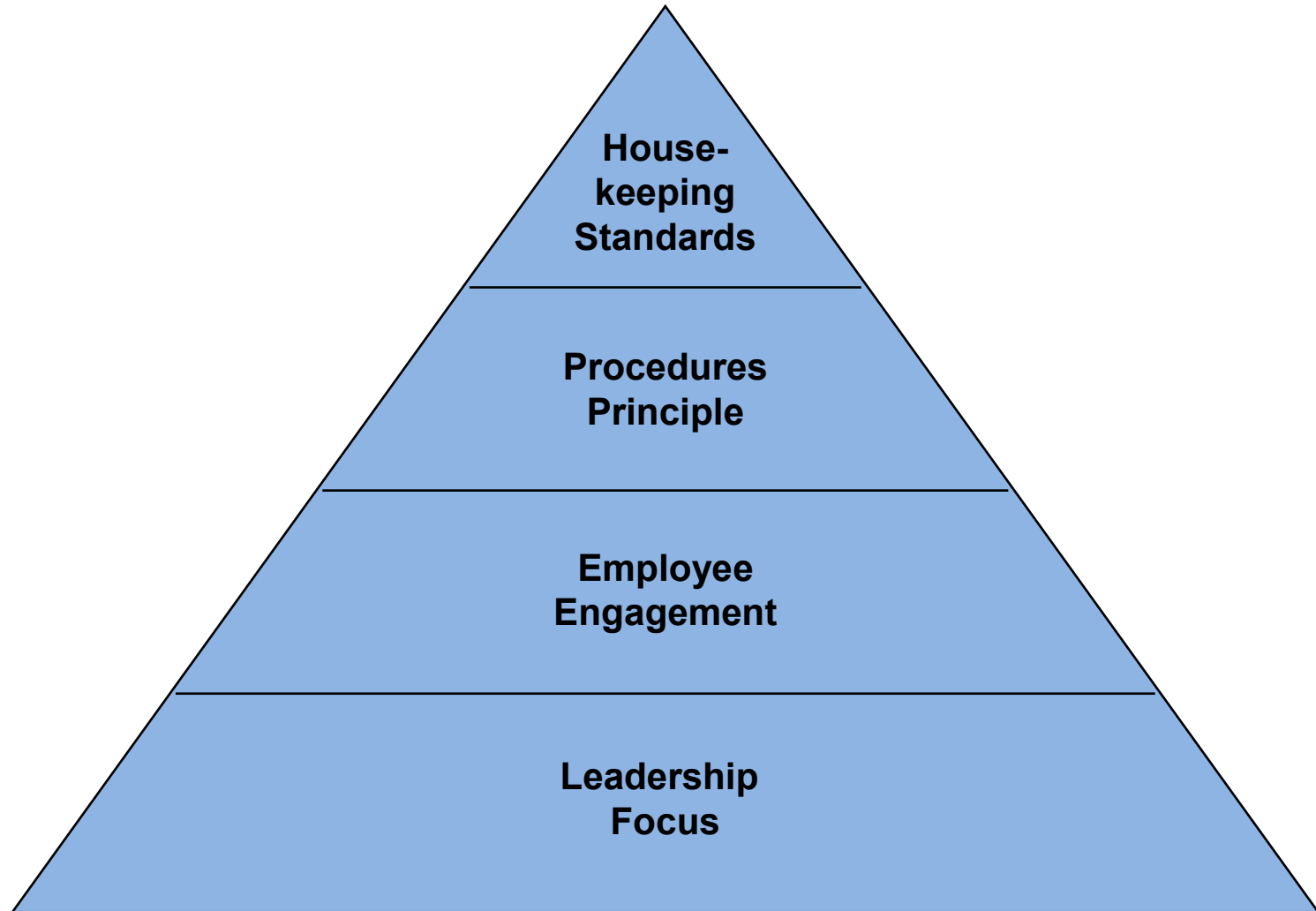
What is Operational Discipline?

- **Operational Discipline**

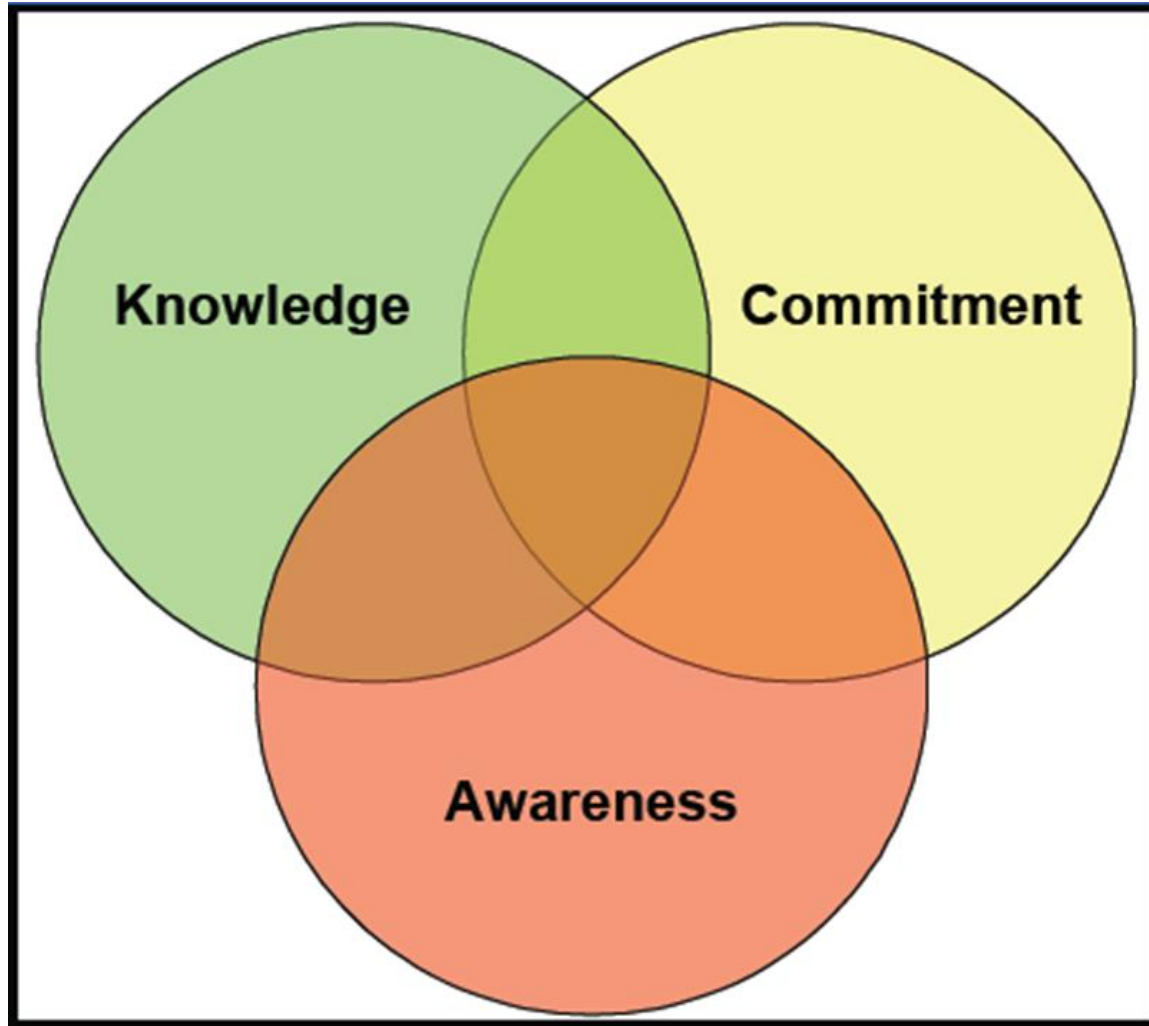
- Following established system and procedural requirements correctly every time
- **Organizational OD:** for site or business leadership to create the programs and work environment and to provide appropriate resources that support desired behaviors
- **Personal OD:** for individual workers at all levels of the organization to know what they need to do their work correctly and safely every time

An effective OD program helps lead to predictable behavior and actions that lead to consistent execution of system requirements

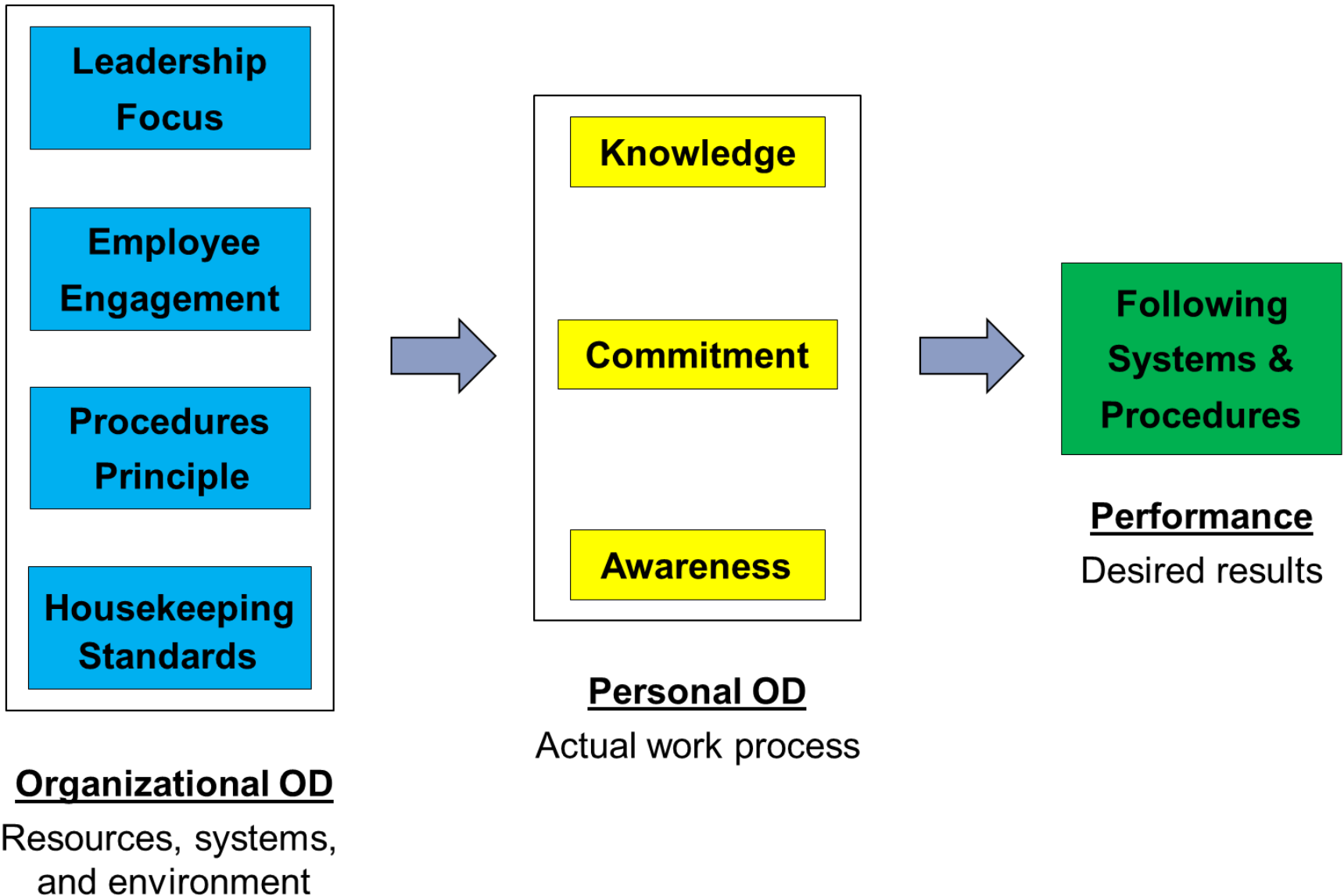
Organizational OD



Personal OD



Operational Discipline



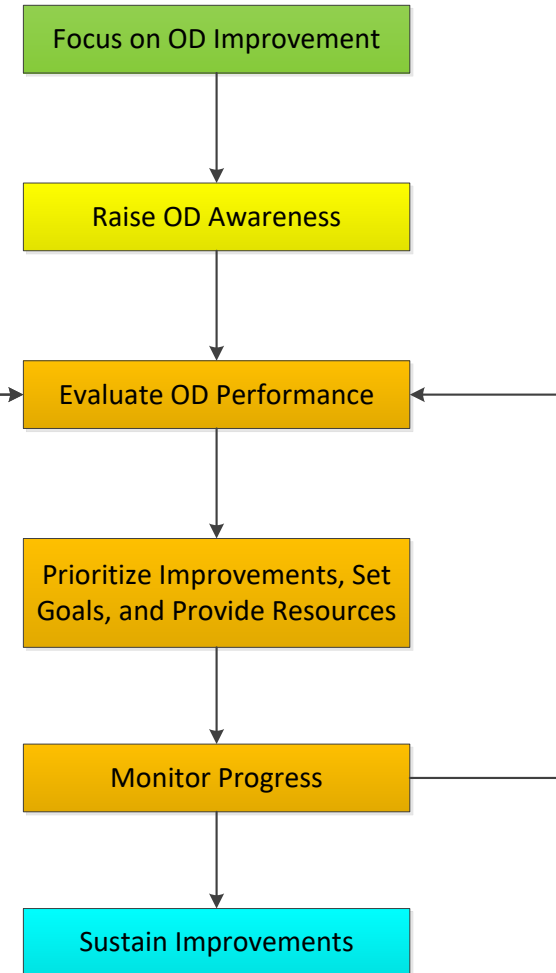
Evaluate and Improve OD

- Focus on OD improvement
- Raise awareness on OD
- Evaluate current OD performance
- Prioritize top OD improvement issues
- Sustain and repeat

Incidents, Injuries, Metrics

Self-assessment Surveys

OD issues will vary by site;
flexibility in approach needed



Evaluate and Improve OD

- **Sources of data**

- Incidents and near misses (OD focus?)
- Injuries and first aid / medical cases (OD focus?)
- Audits and field inspections (OD focus?)
- Safety, quality, and operations metrics (OD focus?)
- Assessment surveys/interviews

- **OD Workshops**

- Review data
- Define and prioritize issues/opportunities
- Establish plan and path forward

Checklists

- **Checklists are a simple way to help improve OD**
 - Use based on task complexity, frequency, and hazards
 - Define minimum essential steps to perform task safely and correctly in a simple format
 - Use at actual time of work as current reminder of steps and hazards
 - Provide documentation of the work
 - Develop with worker input on content and format

Leading OD Improvement (FLAME)

- **Focus** – Focus on OD improvement and goals
- **Leadership** – Provide resources and personal leadership
- **Accountability** – Set clear expectations on performance
- **Measurement** – Measure to assess performance and progress
- **Engagement** – Provide and support a trustful work environment to involve employees