

# *Welcome to TPE's Free Webinar Series*

## *"Ensuring Knowledge Management Through SOP Development"*



*Helping organizations  
see improved results*

**Ohio \* Indiana \* West Virginia**



***Our Guest Presenter***

***Dr. George McAfee***

***Marathon Petroleum Corporation***

## Agenda-

- Welcome
- Introduction of TPE's Webinar Series  
Al Faber, President & CEO, TPE
- Today's Session  
*Dr. George McAfee*  
*Marathon Petroleum Corporation*
- Open Discussion and Questions



## [Register Today!](#)

**Event Cost: \$225.00 per participant  
\$205.00 for TPE 2014 Individual &  
Organizational Members  
Space is Limited**

### **To Register Contact:**

Tiffany Edmonds  
tiffany@partnershipohio.org  
phone: (614) 893-0006  
fax: (614) 515-4771

### **All Three Locations:**

Registration: 8:30 AM - 9:00 AM  
Training: 9:00 AM - 4:30 PM

**JUNE 19, 2014**

### **COLUMBUS, OHIO**

Battelle Advanced Manufacturing  
5160 Blazer Parkway  
Dublin, OH 43017



*The Business of Innovation*

**JUNE 24, 2014**

### **INDIANAPOLIS, INDIANA**

Citizen's Energy Group  
2020 N Meridian Street  
Indianapolis, IN 46202



**JUNE 26, 2014**

### **CHARLESTON, WEST VIRGINIA**

Charleston Area Medical Center  
501 Morris Street  
Charleston, WV 25326



#### **Billie Jo David**

Director of Quality, Summit County  
Board of Developmental Disabilities  
TPE Senior Examiner  
Advising & Partnering Coach  
Lead Trainer, How to Write  
an Application Workshop



#### **Dr. Kurt Schoch**

Performance Improvement Consultant,  
Walden University  
National Alumni Examiner  
TPE Senior Examiner/Team Leader  
Training Facilitator  
Advising & Partnering Coach



#### **Brenda Grant**

Chief Strategy Officer  
CAMC, Health System, Inc.  
National Examiner  
TPE Judge  
Advising & Partnering Coach



#### **Eric Franks**

Manager, Technology & QA  
PRO-TEC Coating Company  
2007 MBNQA - Small Business  
Recipient  
National Alumni & TPE Senior Examiner  
Advising & Partnering Coach  
TPE Lead Judge



#### **Suki Wright**

Director of Organizational Excellence &  
Innovation, Schneck Medical Center  
2011 MBNQA - Health Care Recipient  
National Examiner  
Six Sigma Black Belt  
Advising & Partnering Coach



#### **Dr. Glenn Crotty, MD**

Executive Vice President & COO  
CAMC, Health System, Inc.  
National Examiner  
Training Facilitator



## Quest for Success 15-16 September, 2014 Polaris Hilton, Columbus, Ohio

**BUSINESS – EDUCATION – HEALTH CARE – GOVERNMENT/NON-PROFIT**

*Malcolm Baldrige National Quality Award*  
2013 Award Recipient, Education Category

### Pewaukee School District



(Photo courtesy of Pewaukee School District)  
Click on image to download a high-res version of this photo.

County, Wis. (outside Milwaukee) with an schools (two elementary schools, one mid-acre campus that serves students from both sides of the road. The district is staffed by 296 employees and operates under a \$100 million budget.

### Meeting High Standards for

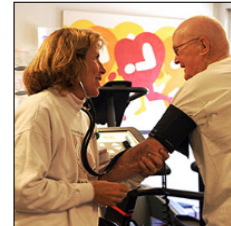
- Despite having one of the most rigorous graduation requirements (100 credits) in the state, PSD achieved a 95% graduation rate in 2012, a higher graduation rate from 2008 than any other district in the state. PSD is a high-performing district. A key measure of college and career readiness, the percentage of PSD students attending a two- or four-year college increased from 78.8 percent in 2008 to 85.5 percent in 2012.

**Highest-Ranking Official:**  
Dr. JoAnn Sternke  
Superintendent



*Malcolm Baldrige National Quality Award*  
2013 Award Recipient, Health Care Category

### Sutter Davis Hospital



(Photo courtesy of Sutter Davis Hospital)  
Click on image to download a high-res version of this photo.

part of a regional structure within the Sutter Health system. Sutter Davis Hospital employs 394 medical staff members and 1,200 other employees. The hospital operated in 2012 on nearly \$95 million in revenue.

### Top-Level Care Maximizes Po

- Sutter Davis Hospital demonstrates sustained high levels of performance in many health care and patient-focused process results. For example, core measure scores reported to the Centers for Medicare and Medicaid Services (CMS) have ranked in the top 10 percent nationally since 2010. (Core measures are evidence-based performance metrics that set

**Highest-Ranking Official:**  
Janet Wagner  
Chief Executive Officer



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## Online Courses and Certifications available through TPE and Moresteam.com:

- \* Lean Six Sigma Black Belt.
- \* Lean Six Sigma Green Belt.
- \* Lean Six Sigma Yellow Belt.
- \* Lean Six Sigma Overview.
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[www.thepartnershipforexcellence.org](http://www.thepartnershipforexcellence.org)

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by The  
American  
Society for  
Quality



### Organizational Members



Celebrating 125 Years of the Trust



Helping organizations see improved results  
Ohio • Indiana • West Virginia

## *Our Presenter...*



***Dr. George McAfee***  
***Marathon Petroleum***  
***Corporation***

Dr. George McAfee is a 25 year industry professional with diverse experience in Hi Tech (Semiconductor), Automotive, and Oil & Gas industrial segments. He holds an undergraduate degree in Electronic and Computer Engineering with a minor in Material Science and an MBA and a PhD in International Business with an emphasis in Global Leadership. George has a broad depth and breadth of experiences in engineering, manufacturing, product quality, and supply chain operations. He has held the lead role in international business development activities, including ventures in Asia, Europe and Mexico. George is an active 6-sigma black belt and senior TPE Baldrige Examiner. He currently manages the Marine scheduling and commercial services organization at the Marathon Petroleum Corporation.

LEADING  
THROUGH  
EXCELLENCE 



THE OHIO STATE UNIVERSITY  
FISHER COLLEGE OF BUSINESS

# Ensuring Knowledge Management Through SOP Development



*George H. McAfee, Ph. D.*



## Marathon Petroleum Company LP



# Original Research - Basis

- Global emphasis on standardized work
- Technology transfer to LCLM
- Intense focus on Enterprise Risk Management
- Target topic at CEO Summit at BGSU in 2012



# Marathon Petroleum - At a Glance

- Fortune 50 company (#33)
- **Established in 1887, in Findlay, OH, as Ohio Oil Company**
- Fourth largest U.S. refiner
- 2012 sales of \$82.5 billion (2013 exceeds \$100B)
- 28,000+ employees
- **Headquartered in Findlay, Ohio**
- Approximately 1,470 Speedway convenience stores
- Approximately 5,100 Marathon Brand retail outlets
- Extensive terminal and pipeline network



# Marathon Petroleum Corporation













- **More than 125 years in business**
- **Fourth largest U.S. refiner**
  - *Geographically and strategically aligned operations*
  - *Industry leader emphasizing safety and environmental responsibility*
  - *Consistently a top performer on an operating income per barrel basis*
  - *Characterized by safe and reliable operations*
- **Focused on profitable growth**

# Focused and Integrated Network



As of Oct. 31, 2013

-  **Marketing Area**
-  **Refineries**
-  **Connecting Pipelines**
-  **Light Product Terminals**
-  **Asphalt Terminals**
-  **Inland Water Terminals**
-  **Coastal Water Terminals**
-  **Tank Farms**
-  **Butane Cavern**
-  **Barge Dock**



Refineries



Terminals



Pipelines



Coastal Water Terminals



Inland Water Terminals



Speedway



Brand Marketing

# Seven Key Corporate Strategies

1. Achieve top-tier safety and environmental performance
2. Grow enterprise value
3. Expand midstream business through MPLX LP
4. Deliver top quartile refining performance
5. Increase assured sales volumes at Marathon Brand and Speedway locations
6. Deliver profitable Speedway growth
7. Utilize and expand MPC's high-quality employee workforce



# Key Themes

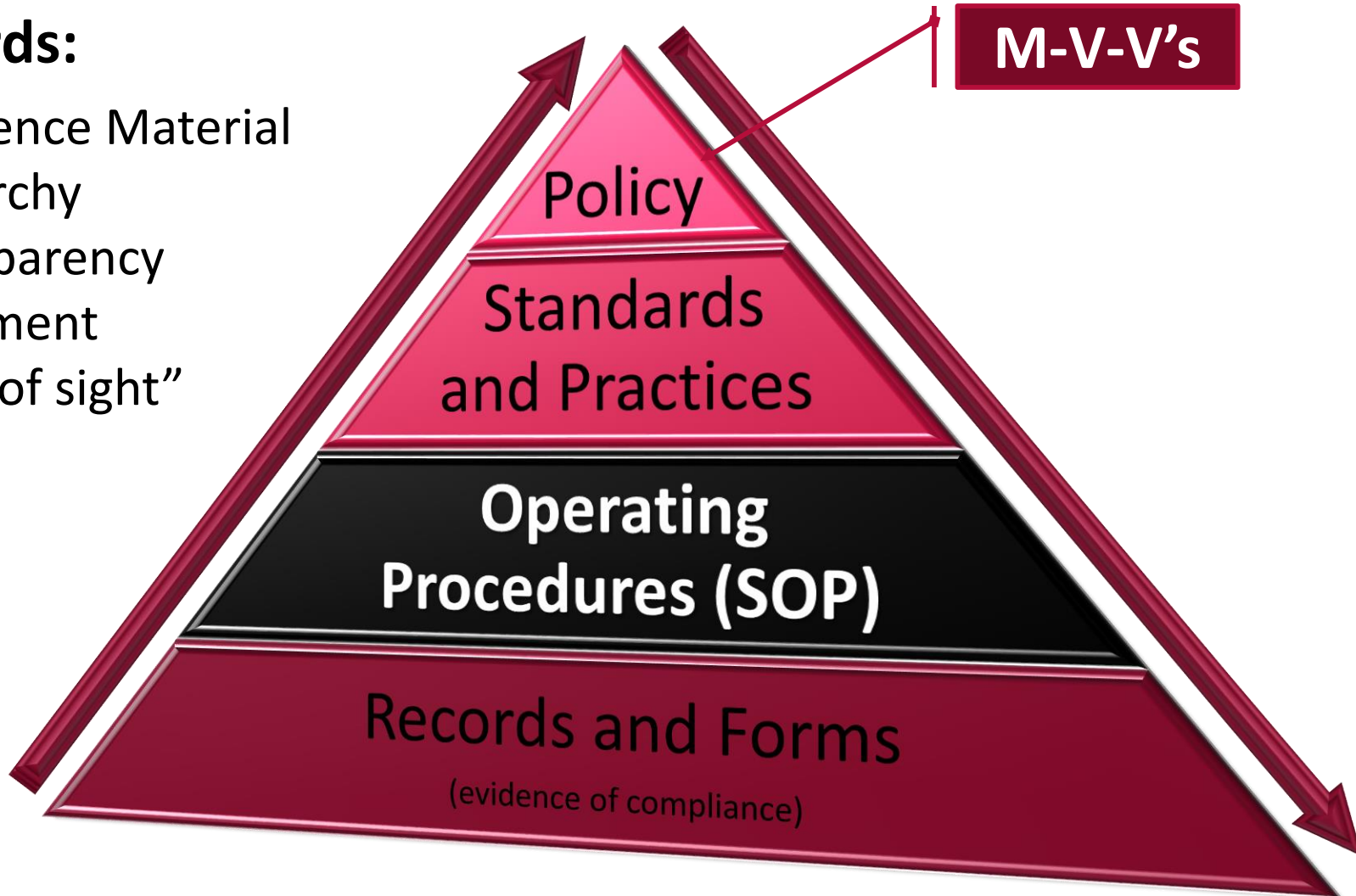
## With respect to standardized work and knowledge management

- Mission-Vision-Values must be central tenet
- SOP's around processes core to M-V-V preservation
- Knowledge management embedded in SOP's
- Prioritize SOP development by imminent risk to M-V-V
- Risk assessment enabled by KPI maturity
- “Best Practices” identified and integrated into SOP's

# Knowledge Management and SOP's

## Key words:

- Reference Material
- Hierarchy
- Transparency
- Alignment
- “Line of sight”



# Problem Statement – *What is an SOP?*

## Origin from US Military and Mil-Std library.....

“Detailed, written instructions to achieve uniformity of the performance of a specific function”

**Or:**

“A written document of instruction detailing all relevant steps and activities of a process or procedure to provide employees with a reference to common business practices, activities, or tasks”

**....essentially the SOP presents the “rules of engagement” for a specific process or function.**

# Problem Statement – *What an SOP is not?*

## **An SOP is not.....**

- An academic white paper
- A recommended practice
- Optional
- Discretionary
- Subject to voluntary compliance!

**It SHALL be the way work is performed in your organization**



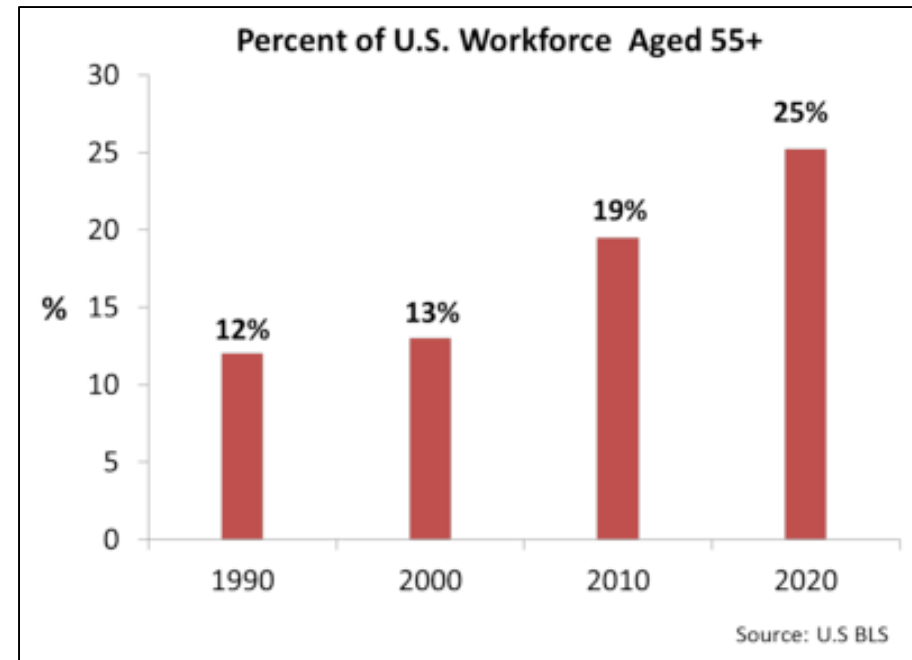
# Problem Statement - *Why Develop SOP's?*

- Aging workforce
- “Tribal knowledge” at-risk
- Service/tenure is declining (ie. Job-hopping)
- Dominate presence of Technology/Automation
- HES&S risks and regulations abound
- Promote consistency and uniformity
- **Capture and transfer critical knowledge**

# Problem Statement - Why Develop SOP's?

According to the NBLS.....

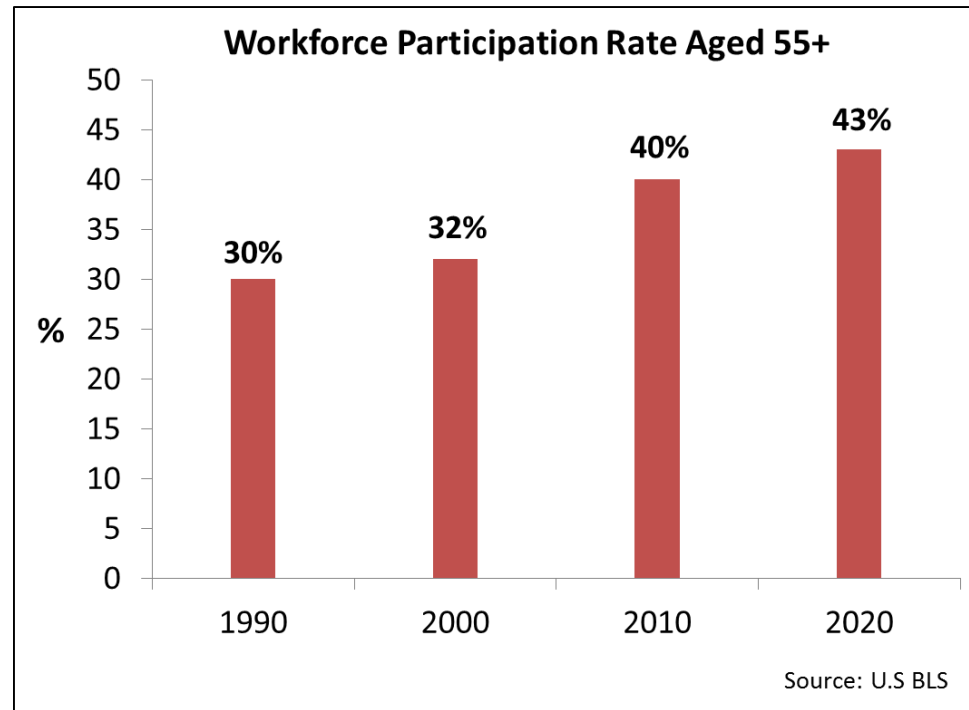
- *“As the U.S. population ages, the labor force will grow more slowly during the next decade; the **older labor force is projected to grow more than 5 times faster** than the overall labor force.....”*



# Problem Statement - Why Develop SOP's?

According to the NBLs.....

- *“a higher percentage of those 55 and over will remain in the workforce, longer than before.....”*

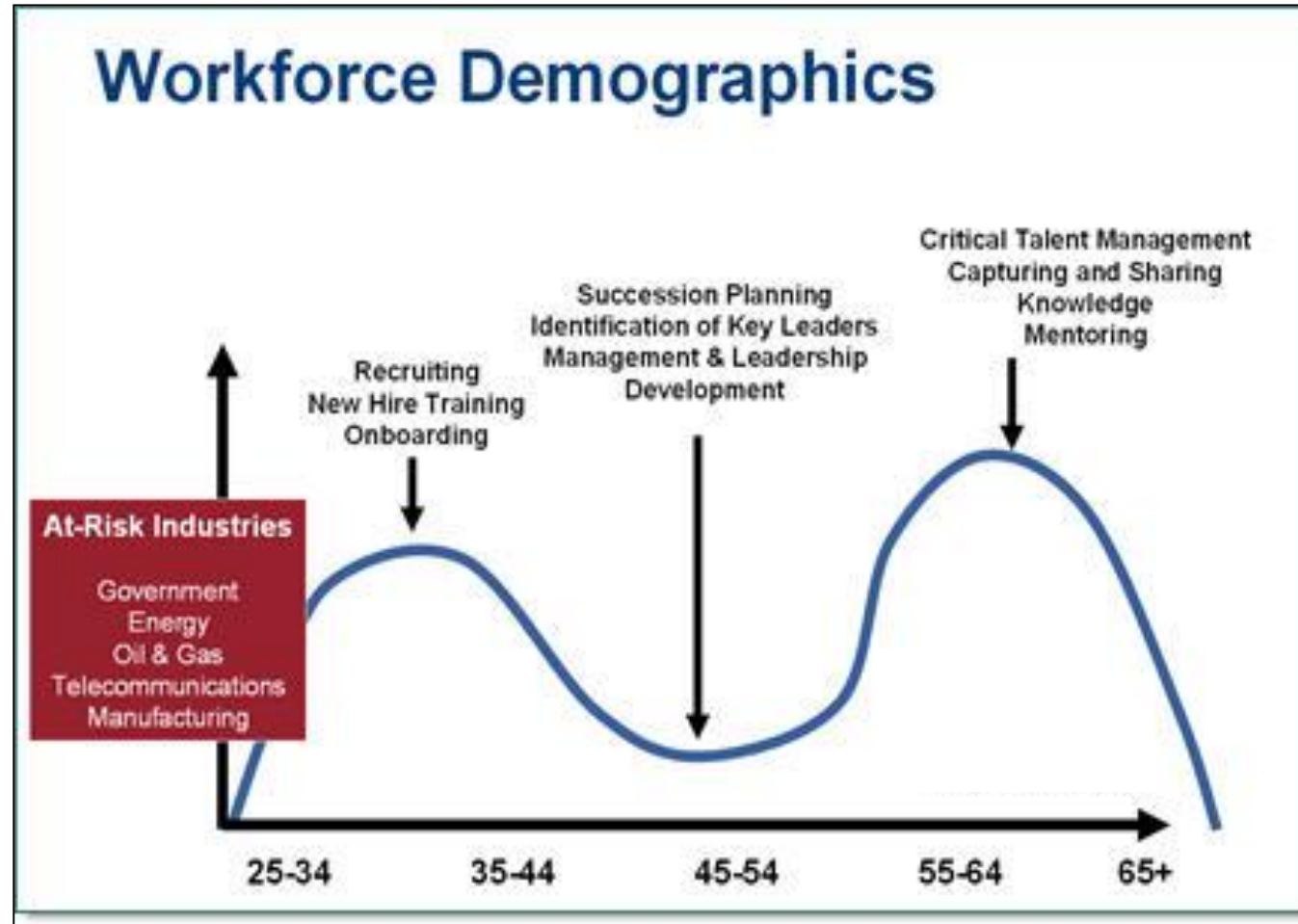


**They are giving us a chance.... to harvest their knowledge!**

# Problem Statement - *Why Develop SOP's?*

From the NBLs.....

- *Workforce age demographic profile is bi-modal.*
- **Knowledge transfer** as a critical business
- **Non-adjacent generation gap!**



# Problem Statement - *Why Develop SOP's?*

So, how do we mitigate risks associated with “job hopping”, complex operating systems, loss of legacy knowledge, etc...?

**Develop a complete set of Standard Operating Procedures for those processes and procedures that are core to preserving your  
- Mission-Vision-Values -**

# Solution – *How to Develop SOP's?*

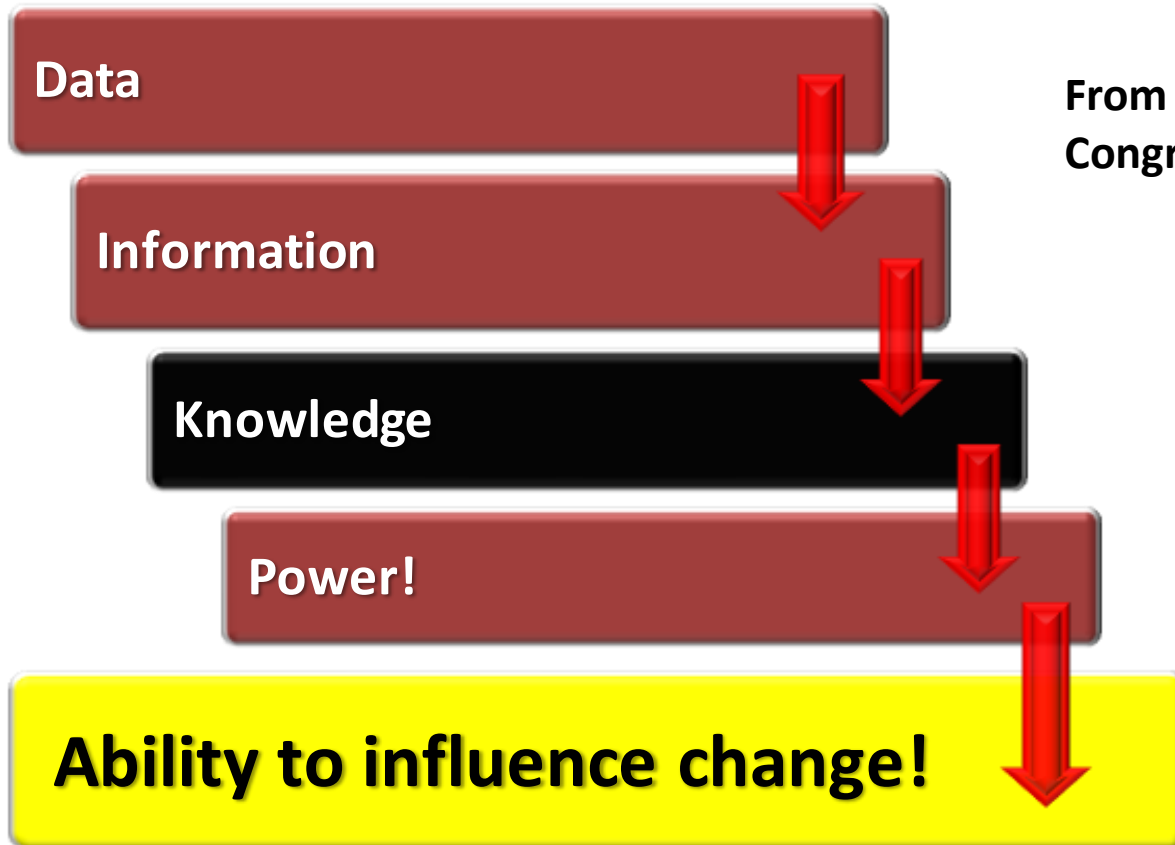
Some critical questions you must answer.....

- *What processes put your M-V-V at the greatest risk?*
- *Are there governing documents for these processes?*
- *How do you measure or assess the potential impact of process failure?*
- *Are there KPI's for these processes?*
- **And** *are these KPI's sufficient to quantify risk?*

**...to answer that question, consider where your KPI's fall on the "comprehension continuum"?**



# Solution – “Comprehension Continuum”



From the foyer of the Library of Congress.....



**Assessing risk is a function of comprehending the operational impact of the levels and trends of specific KPI's**

# Solution – Comprehend Operational Impact?

Proven technique: Failure Modes and Effects Analysis (FMEA)

<b>Process Element (or M-V-V line item)</b>	<b>Potential Failure Modes</b> <i>What are the potential errors, problems, omissions, etc...that may exist with the key inputs to this process?</i>	<b>Potential Impact of Failure Mode</b> <i>What impact would the presence of one of these failure modes have on the output of the process or the attainment of the M-V-V's. (other critical requirements)</i>
<ul style="list-style-type: none"><li>• Core value or critical organizational success factor (CSF)</li><li>• <b>ie. Environmental Stewardship.</b></li></ul>	<ul style="list-style-type: none"><li>• Unintended release or spill of hazardous material to water way</li><li>• Employee exposure to hazardous vapors beyond AEL.</li></ul>	<ul style="list-style-type: none"><li>• Catastrophic affect on wildlife or adjoining landscape</li><li>• Designated Environmental Incident (DEI)</li><li>• Excessive fines, settlement costs, media exposure and irreparable harm to reputation.</li></ul>



# Solution – Comprehend Operational Impact?

**Proven technique:** Failure **M**odes and **E**ffects **A**nalysis (FMEA)

<b>S E V</b>	<b>Potential Causes of Failure Modes</b> <i>What are the potential root causes, that if present in the process, would result in the occurrence of one or more of these failure modes?</i>	<b>O C C</b>	<b>Current Process/Design Controls</b> <i>What are the current oversight, surveillance, or monitoring tools, that are intended to identify or prevent variation, errors, or threats to critical inputs that may ultimately result in a one or more of the listed failure modes?</i>	<b>D E T</b>	<b>RPN</b>
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- Inadequate containment
- Valve alignment errors
- Uncalibrated flow meters
- Insufficient fault protection
- Air monitoring devices inoperable

- Volumetric capacity surveys
- Compared to design/construction specifications
- “Management of change” discipline
- Peer review of valve alignments
- Formal PPE validation policy

# Solution – Comprehend Operational Impact?

**Proven technique:** Failure **M**odes and **E**ffects **A**nalysis (FMEA)

Recommend Actions	Responsible Person(s) & Target Date	Actions Taken	S E V	O C C	D E T	R P N
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- Benchmark “best practice” containment strategies
- Develop SOP’s for construction planning and PMP
- 0-zero tolerance for PPE violations



# Solution – Risk Priority Number?

RPN is product of 3 elements:

## Severity

- X *Measure of magnitude of impact from the presence of the failure mode. How severe are the consequences?*

## Occurrence

- X *How likely or what is probably that failure mode will occur and at what frequency?*

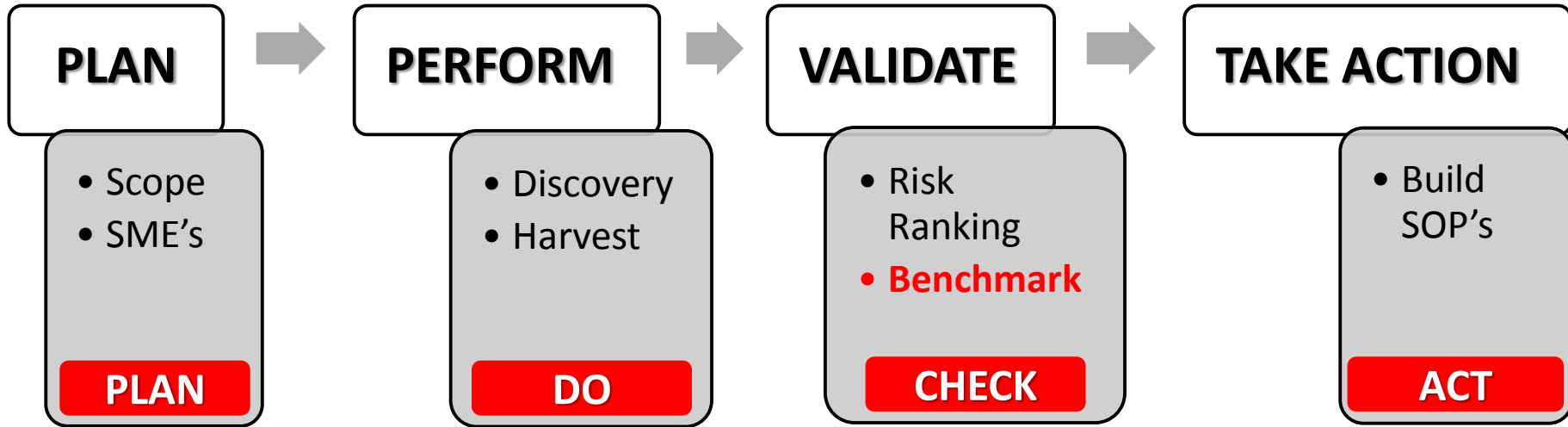
## Detection

- A measure of the effectiveness of current controls. How likely are the current control systems to predict and/or prevent failure?*

**Each typically evaluated on a scale from 1 – 10, with 10 being most severe, most frequently, or least likely to detect.**

# Solution – Assessing Risk to M-V-V via FMEA

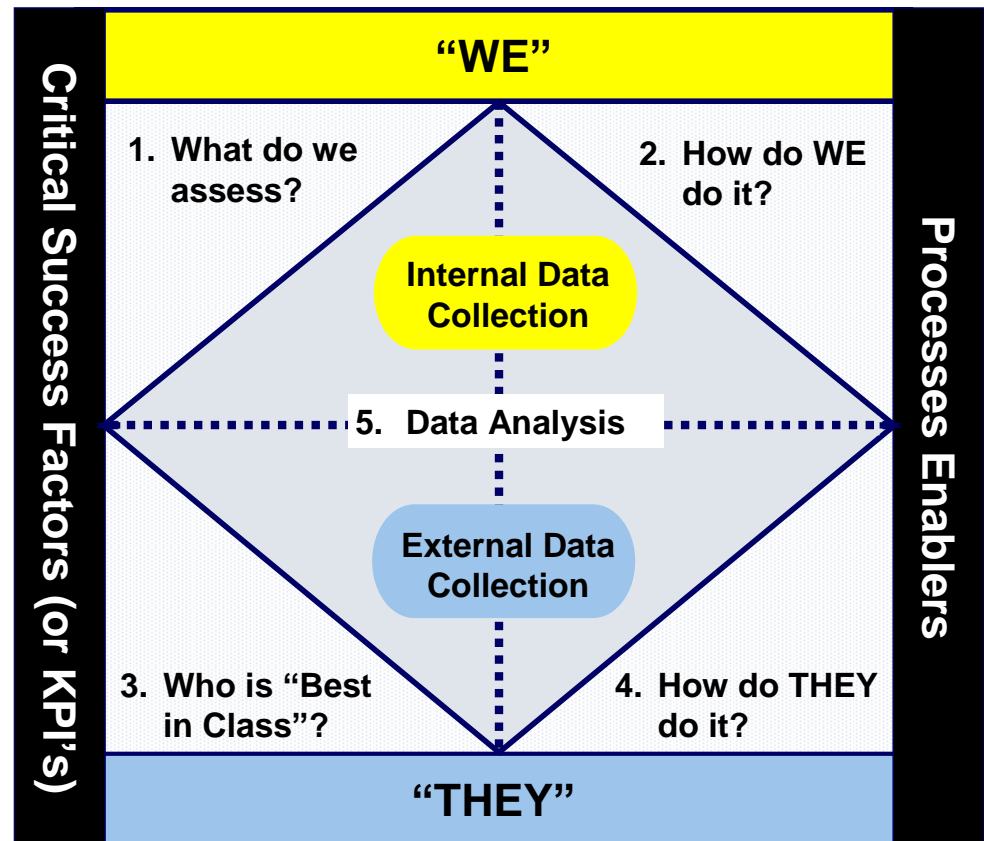
*....bringing it all together!*



# Solution – Validate through “benchmarking”

## Benchmarking Success:

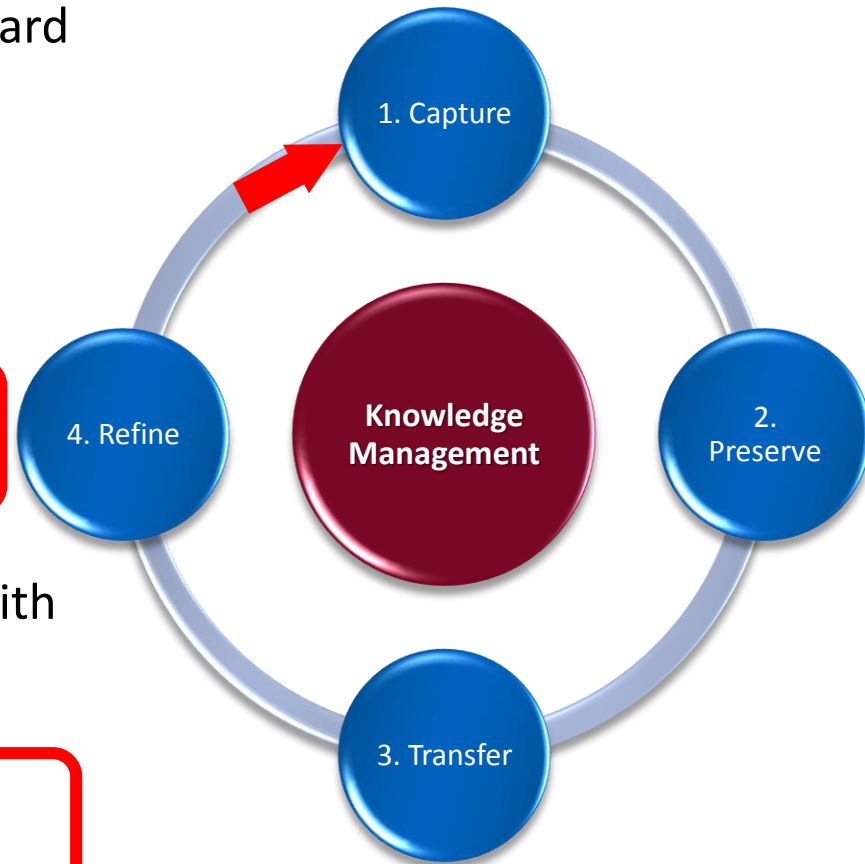
- *You must be willing to admit that someone else might be better!*
- *Look outside of your industry!*
- *Support all claims and evidence with DATA.... **because it CAN lead to the “ability to influence change”!***
- *Steal shamelessly but share religiously!*



# Finally !! – *Concluding remarks*

- Workforce demographics may put M-V-V at risk
- KPI's from mission critical processes feed forward into formal risk assessment
- Risk assessment process will generate critical “knowledge” for AND from organization
- Validation of risk should include external benchmarking
- SOP Library should be developed consistent with high-risk processes
- Preserving of M-V-V's enabled by the KMS “wheel” (shown on right).

**KMS “wheel”**



# For your office whiteboard.....

**Learning is the process of acquiring knowledge...**

**Learning is not compulsory, but yet neither is survival...**

*W Edwards Deming*

**'In vain have you acquired knowledge if you have not imparted it to others'**

*Deuteronomy*

# Q & A



# Ensuring Knowledge Management Through SOP Development

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**Marathon  
Petroleum Company LP**

