WM Symposia, *Panel Session 35*

3-7 March 2014

US DOE Office of River Protection – Waste Treatment Plant Project
Safety Culture for "New" Nuclear Construction

Melinda d'Ouville, Manager, Nuclear Safety and Quality Culture
Bechtel National, Inc.

U.S. DEPARTMENT OF **ENERGY**   **BECHTEL**   **URS**

1

WTP Engineering, Procurement and Construction (EPC)

- WTP is an EPC project to construct the world's first chemical waste processing facility capable of both separating radioactive liquid waste and turning it into a stable glass form suitable for permanent, safe disposal.

- 2300+ employees, professionals, craft, and subcontractors.

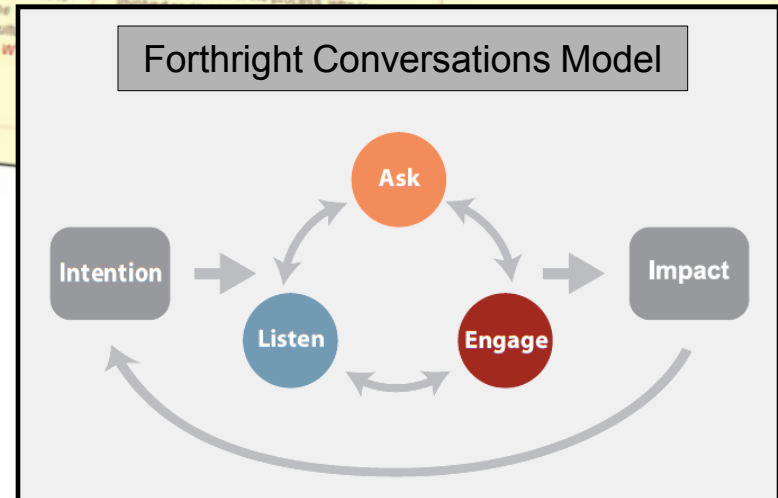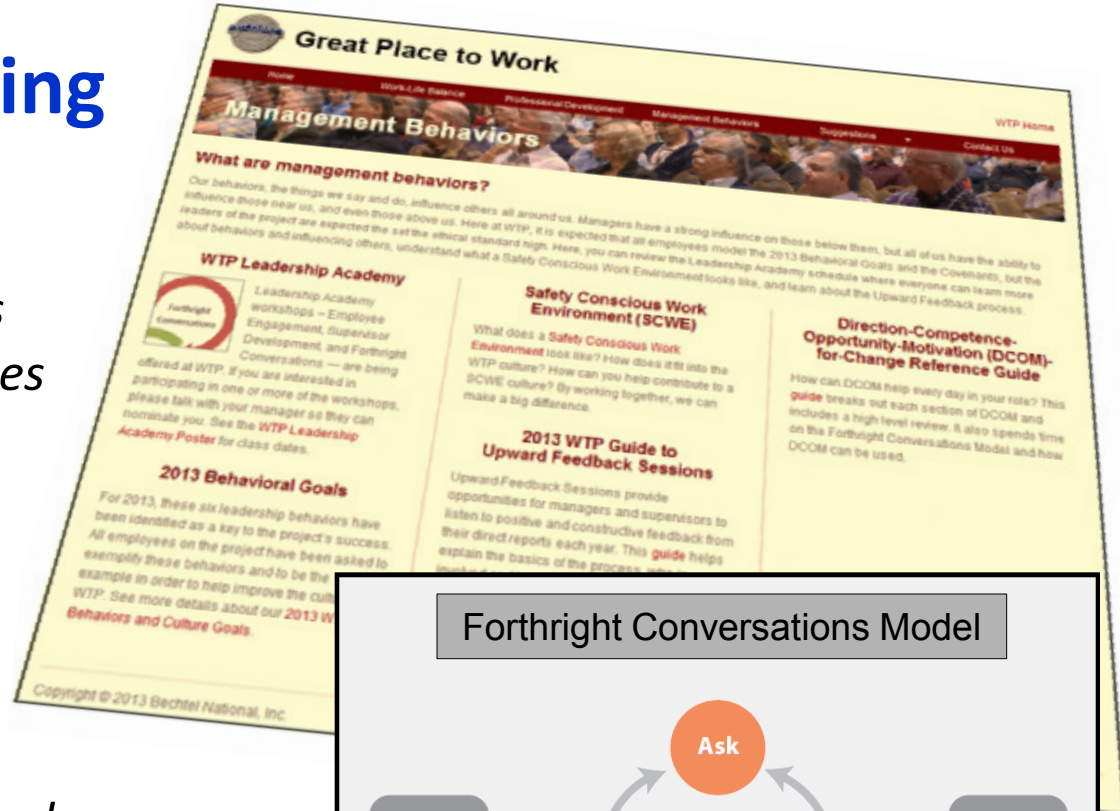- Multiple locations locally and across the country.

Hanford Site, Richland, WA

Strengthening the WTP Nuclear Safety and Quality Culture

Cultivate a Learning Organization!

"Nuclear safety culture is defined as the core values and behaviors resulting from a collective commitment by leaders and individuals to emphasize safety over competing goals to ensure protection of people and the environment."

INPO 12-012, Traits of a Healthy Nuclear Safety Culture

Forthright Conversations Model

Nuclear Safety and Quality Culture Key Objectives

- Shape safety culture using healthy behaviors and recognizing every employee interaction as an opportunity to coach or learn.

- Invest in organizational elements that reinforce the supervisor / employee relationship, anchor behaviors, enable candid discussion.

- Present a compelling narrative that ensures all activities, however incidental to the mission, are executed with safety and quality as core values.

- Reinforce and reward the attributes of a learning organization.

What is the difference between industrial safety and nuclear safety?

"Industrial safety is the prevention of injuries resulting from occupational hazards, such as electricity, chemicals, falls, temperature, and noise. Nuclear safety is the protection of workers, the public, and the environment from undue exposure to radiation. Nuclear safety must be inherent to WTP design, procurement, and construction.

The two overlap when industrial safety events and trends become indicative of lapses in core nuclear safety principles that could potentially compromise decision-making that puts safety first, working with a questioning attitude, and adherence to work practices."

Peggy McCullough, WTP Project Director
August 15, 2013

4

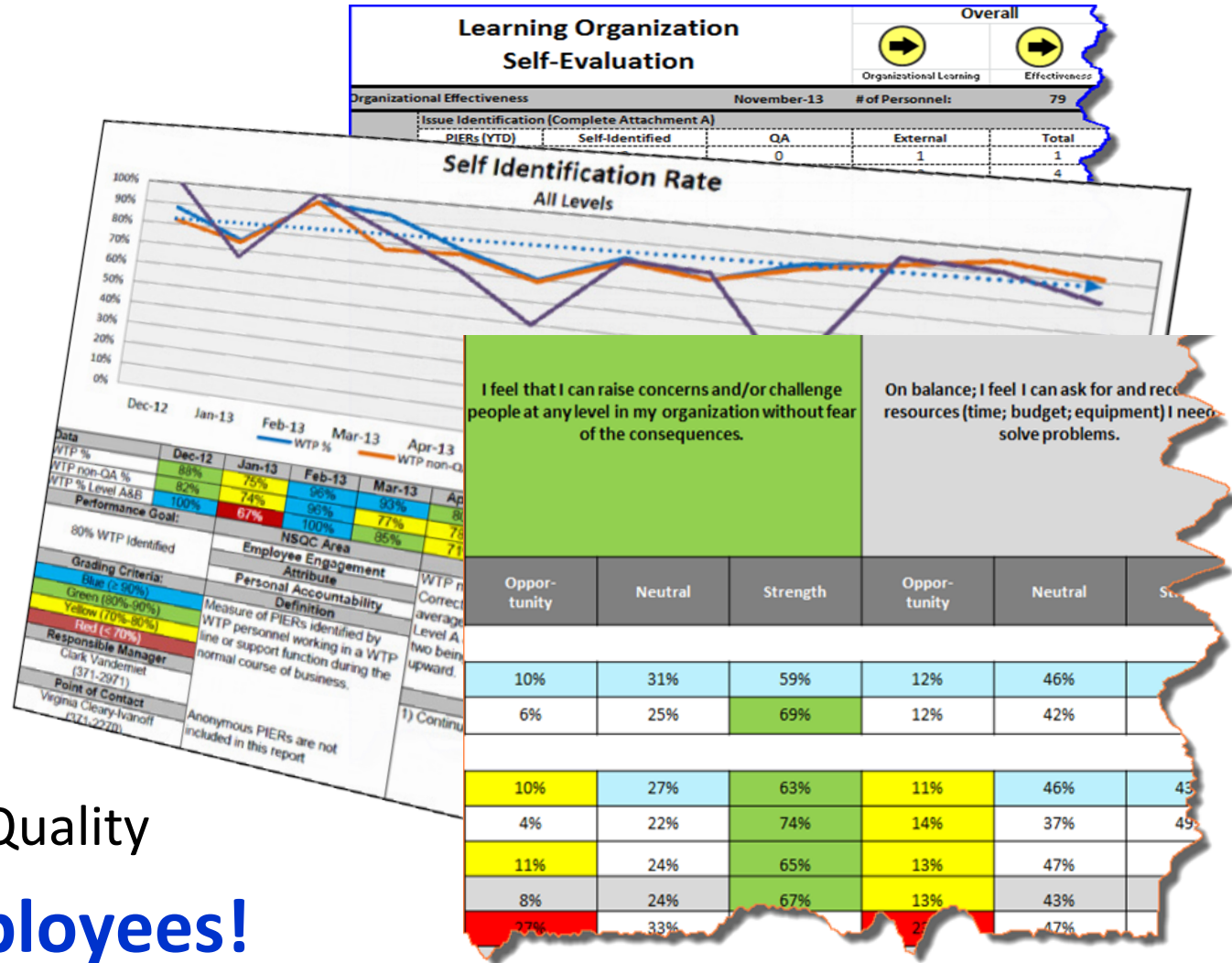# Shaping Nuclear Safety and Quality Culture

- Educate and engage the workforce in the elements of a safety conscious work environment

- Reframe success strategies brought from non-nuclear EPC projects

SCWE

MANAGEMENT SUPPORT	EFFECTIVE NORMAL PROBLEM RESOLUTION	EFFECTIVE ALTERNATE PROBLEM RESOLUTION	EFFECTIVE METHODS TO DETECT AND PREVENT RETALIATION
↓ WORKER CONFIDENCE ↓	**DPO** Differing Professional Opinion		
RAISE CONCERNS WITHOUT FEAR OF RETALIATION	**CAP** Corrective Action Program	**ECP/OCP** WTP Employee Concern Programs / ORP Concern Program	**SCWE-RT** SCWE-Review Team

BASIC PRINCIPLES

- Treat everyone with respect
- Seek first to understand
- Focus on the situation, not the person
- Take initiative to make things better
- Lead by example

Employee Interactions - Opportunities to Coach and Learn

- Surveys
- Scorecards
- Polls
- Observations
- Walkabouts
- Interviews
- Coaching
- Focus groups
- Feedback
- Address Issues
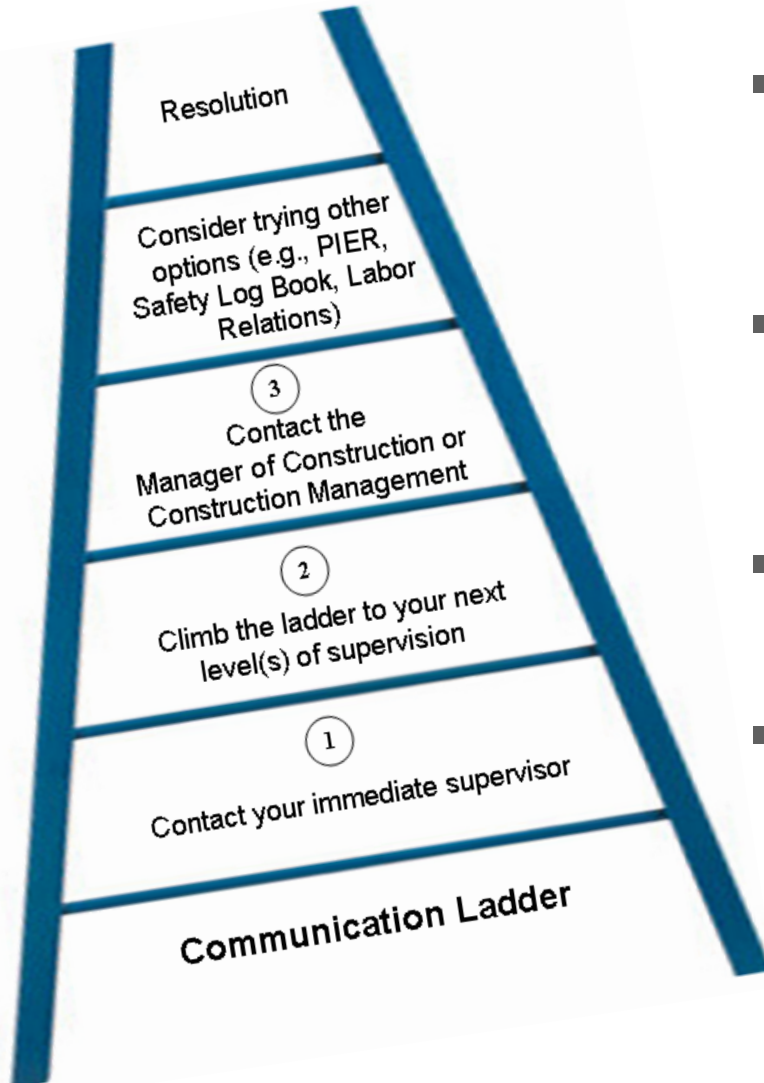- People Based Quality

Pulse employees!

Invest in Employee Organizational Elements

- Respectful work environment

- Shared communication

- Environment supports raising of issues

- Craft performance rating ranking process

- Applying Work Rules consistently

Safest year in project history!

Reinforce Supervisor / Employee Relationship

Resolution

Consider trying other options (e.g., PIER, Safety Log Book, Labor Relations)

3 Contact the Manager of Construction or Construction Management

2 Climb the ladder to your next level(s) of supervision

1 Contact your immediate supervisor

Communication Ladder

- Educate Craft supervision in Leadership and Forthright Conversations

- Encourage "Climbing the Ladder" when voicing safety or quality concerns

- Pulse Craft safety culture with a scorecard and focus groups

- Reinforce use of alternate avenues to raise issues

Build trust and open communication!

Present a Compelling Narrative of Safety and Quality

- Leadership Covenants
- Key Behaviors and Culture Goals
- Quality Absolutes
- Quality Imperatives

- Ladder of Accountability
- Accountability Model
- Situational Decision-making
- Traits of a Healthy Safety Culture

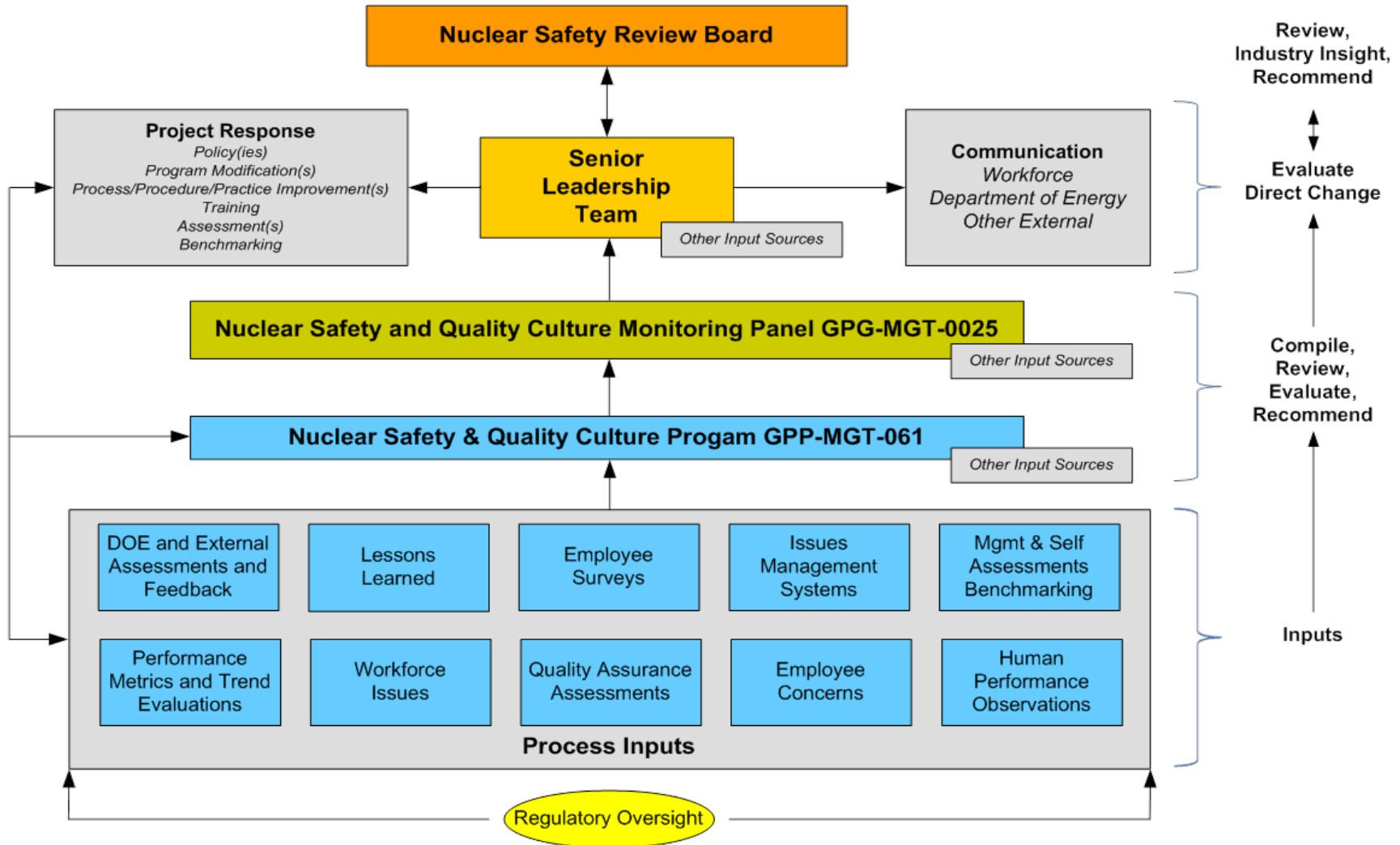**Messages on Walls, in Offices, on Websites, in Pockets!**

Reinforce and Reward the Attributes of Learning Org

- Benchmarked nuclear industry and DOE complex processes and applied unique characteristics of an EPC project.

- Compared WTP processes to robust attributes / standards.

- Evaluated indicators, data, assessments, interviews, and observations to develop summary level safety culture health.

- Reviewed through the WTP NSQC Leadership Forum.

- Positive recognition for continuously improved performance.

Measure the health of the culture!

WTP NSQC Leadership Forum* and Learning Organization

* NEI 09-07 Model, *Fostering a Strong Nuclear Safety Culture, Nov 2010*

Attack Complacency to Anchor Change

- Cultivate a "learning organization" that reinforces nuclear safety and quality culture behaviors and values.

- Ingrain effective change management practices to eliminate possible negative influences on the safety culture.

- Coach first-line supervisors to encourage: a questioning attitude, identifying issues early, and leading by example.

- Link key processes to safety and quality culture improvements.

- Suspect, and pursue to resolve, latent organizational weaknesses.

- Foster the pillars of a SCWE.

Unhealthy Safety & Quality Culture   Healthy & Self Correcting   Superior Safety & Quality Culture