Supplier Quality Oversight

Jamie Vasquez
Director, Supplier Quality Oversight and Assessment
Westinghouse Electric Company
June 28, 2012

Westinghouse

Quiz

INPO's Principles for a Strong Nuclear Safety Culture

1. Everyone is personally responsible for nuclear safety.
2. Leaders demonstrate a commitment to safety.
3. Trust permeates the organization.
4. Decision-making reflects safety first.
5. Nuclear technology is recognized as special and unique.
6. A questioning attitude is cultivated.
7. Organizational learning is embraced.
8. Nuclear safety undergoes constant examination.

- What are the three "basic" attributes that make nuclear technology special and unique?
  1. Large amount of fuel stored in a "small" location
  2. Fissionable, radioactive material
  3. Decay heat

Lesson Learned: Many suppliers do not understand this nor the other principles. We must educate them.

Why is Supplier Safety Performance Important to Westinghouse?

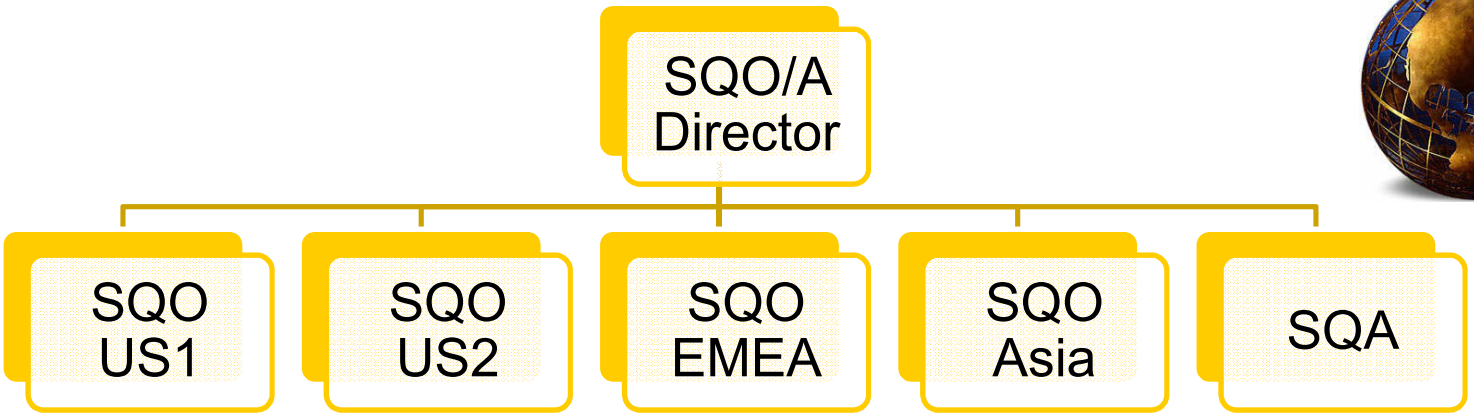
- Westinghouse considers industrial safety as a leading indicator of an organization's performance… simply put, if you are not working safely, you are not performing well.
- Your safety performance is an indicator of:
  1. Continuous Improvement Focus
  2. Tolerance for Events
  3. Organizational Effectiveness
  4. Culture & Management Oversight Effectiveness
  5. Procedure Use & Adherence
  6. Risk-Taking Behaviors

Simple Example with Profound Implications

I observe one of your employees not wearing safety glasses, as required by your procedures.

- My immediate reaction is:
  - This organization likely has inadequate management oversight and reinforcement → impact on quality?
  - This organization may have a procedure compliance issue that could affect product quality.
  - This organization may have a risk-taking culture that could affect product quality.

Westinghouse Oversight Organization



Responsible for the assessment, qualification, oversight and development of suppliers, globally, including:

- Performing new and existing supplier qualifications.
- Commercial Grade Surveys.
- Maintenance of the Westinghouse Qualified Suppliers List.
- Perform supplier surveillance and source inspection.
- Document and manage supplier issues and Corrective Action Requests.
- Develop supplier quality risk analysis and development plans.

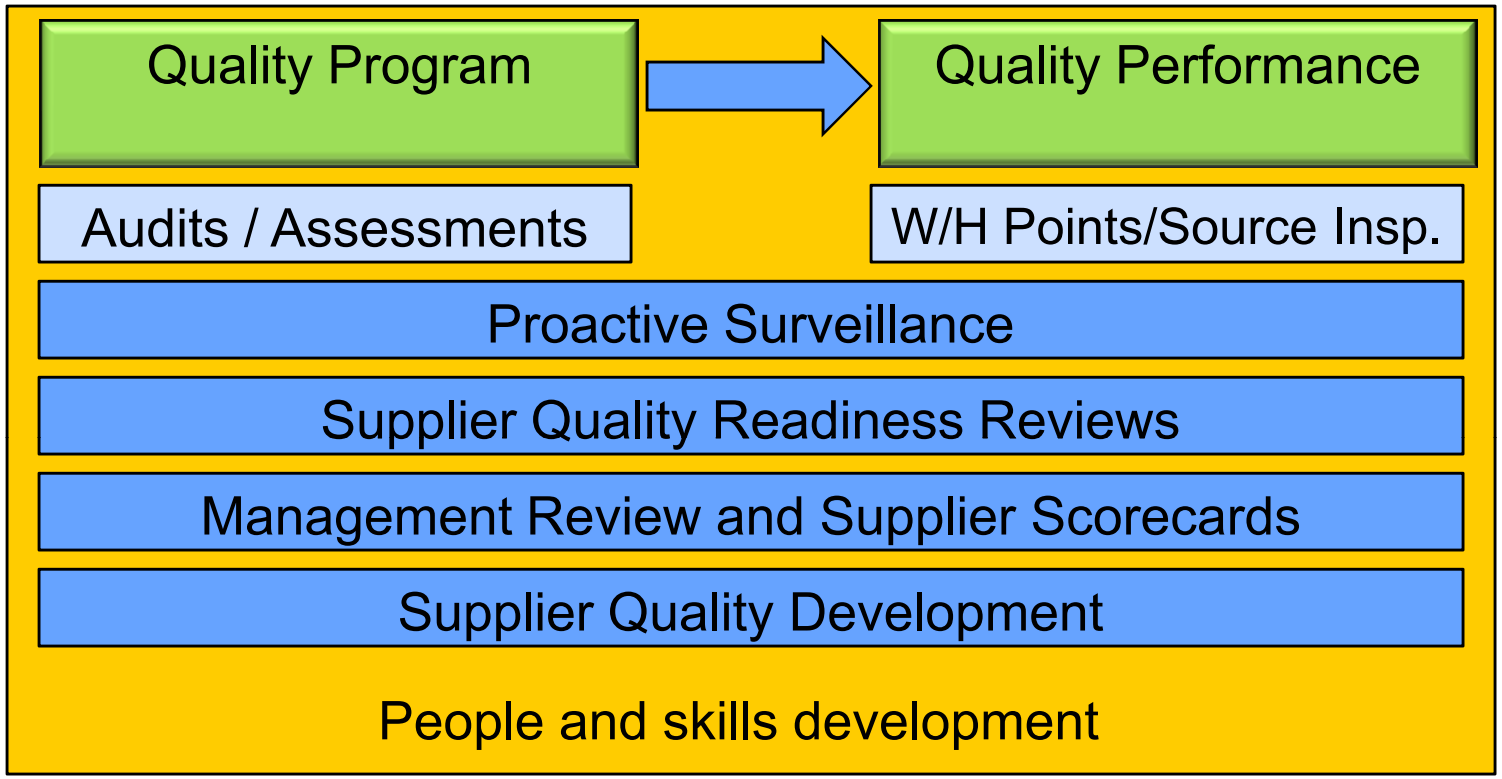
Growing Demand, Growing Supply Base

- Westinghouse is engaged in various-sized projects, product delivery, and service initiatives world wide.
  - Vogtle, V.C. Summer, Haiyang, and Sanmen AP1000 New Plant Construction
  - Mechanical Components and I&C for new plant construction at UAE and Shin Kori
  - Replacement steam generator and major plant modifications
  - Worldwide outage services and plant upgrades
  - Major engineering services contracts
  - Operating plant I&C upgrades
  - PWR and BWR fuel delivery to fleet

Supplier Oversight Summary

- Oversight and control of suppliers is critical to industry success.
  - First of a kind scope / new suppliers represent a new level of challenge.
  - Flow down of requirements and ensure implementation
  - Quality program effectiveness as a foundation for product quality
- Westinghouse is proactively and systematically evaluating our process and driving continuous improvement
- Driving oversight and early action to predict and prevent supplier quality issues
  - Multiple processes
  - Frequent review
  - Systematic monitoring & trending
  - Proactive oversight

Holistic Approach to Supplier Oversight



Implementing a layered system that provides for proactive intrusion to enable predict and prevent behaviors / actions.

Example of applying the strategy

- Supplier essentially new to nuclear
- Building FOAK equipment
- Audit in late 2010 revealed several organizational effectiveness gaps
  - QA program
  - Planning & scheduling
  - Witness / Hold points
  - Management oversight
  - Communication
  - Schedule compliance
- Resulted in a stop work order
- Westinghouse deployed resources to bring the supplier into compliance
- Regular management review meetings commenced
- Continuous assessment of progress and risk (safety, quality, delivery, and cost)
- Assigned an issue manager to drive corrective and improvement actions
- Introduced HuP and Nuclear Safety Culture
  - Targeted executive management to drive the improvements
- Provided resources to train, coach, and mentor
- Deployed a quality, manufacturing, and procurement team of experts to assess the supplier

Example of applying the strategy

- Documented a comprehensive supplier improvement plan
- Continued to monitor performance
- Etc.

- **Outcome**: substantial improvement in supplier performance.

Key Elements for Success:
- Substantial management review
- Many readiness reviews completed
- Substantial quality oversight throughout the process
- Significant focus on development
- Westinghouse management alignment and commitment

- **Key Lessons Learned**:
  - Do not focus solely on the QA manager / organization
    - The QA manager often times does not have the organizational influence to effect significant change
  - Engage the QA manager, the Operations manager, and the Plant Manager (minimum)
  - Utilize a cross-functional team within your organization
    - Quality
    - Supply Chain Management
    - Projects
    - Engineering

Operating Experience and Lessons Learned

- **Suppliers** – First of a kind scope for large proportion of supply base presents a new level of challenge.
- **People and Leadership**
  - **Standards/Expectations** – Mgt observation & reinforcement
  - **Training , Qualification & Proficiency** – Continuous attention
- **Process and Tools**
  - **Proactive intrusion** to establish risks and leading indicators
  - **Procedure Implementation** – Detailed guidance drives consistency
  - **Frequency, Intrusiveness & Observation** – Tailored
  - **Systematic Monitoring & Trending** – Fact-based and predictive
  - **Proactive Supplier Readiness & Development** – Issue prevention
  - **Executive Engagement and Intervention –** Visibility and involvement in critical supplier performance issues

US Industry Observations and Lessons Learned

- **Data points observed and/or shared with Westinghouse:**
  - *"Common" supplier quality program gaps, as observed by Westinghouse today:*
    - *Commercial dedication*
    - *Part 21*
    - *Non-conformance system*
    - *Corrective action program*
    - *Internal and supplier audits*
    - *Human Performance*
    - *Nuclear Safety Culture*

Summary

- Oversight and control of suppliers is critical to industry success
- Proactive and aggressive approach to predict and prevent issues is paramount
- Sustained vigilance is required

Questions?