

A People-Focused Approach for Assuring Quality

Marcey Hooper, PhD
Director, Quality Assurance
Sandia National Laboratories

February 2018

Sandia National Laboratories is a multi-mission facility managed and operated by National Technology & Engineering Solutions of Sandia, LLC, a wholly owned subsidiary of Honeywell International, Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA0003525. SAND2018-xxxx

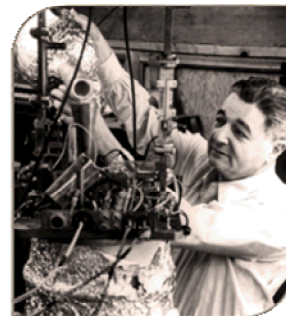
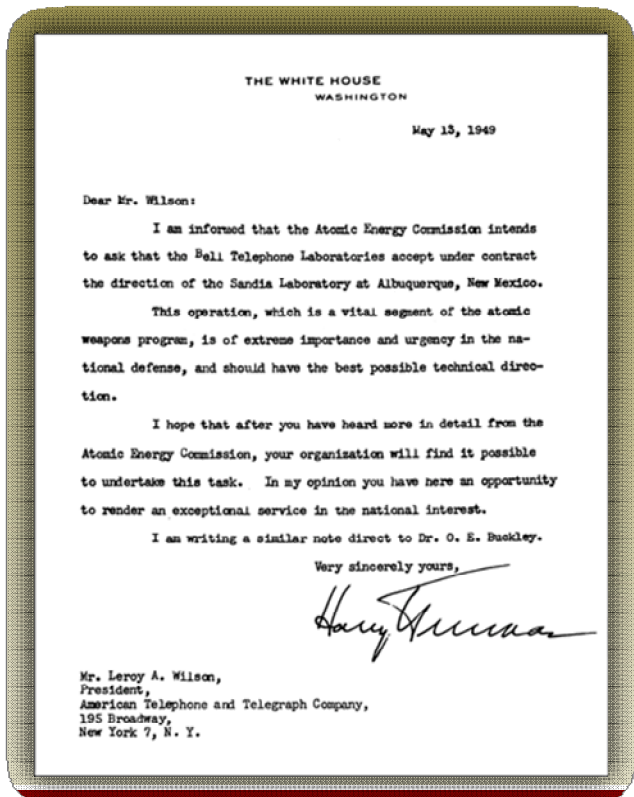


Agenda

- Sandia History
- The Quality Assurance Challenge
- Traditional Tenets
- The New Environment
- A Role for the Quality Organization
- Results

Sandia's History

<https://www.youtube.com/user/SandiaLabs>



The Quality Assurance Challenge

- An analogy for the quality assurance challenge faced in high



An Additional Quality Assurance Challenge

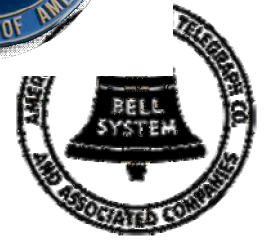
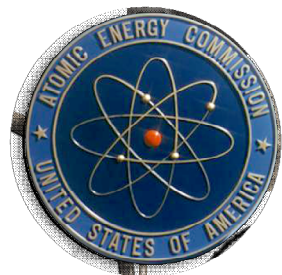
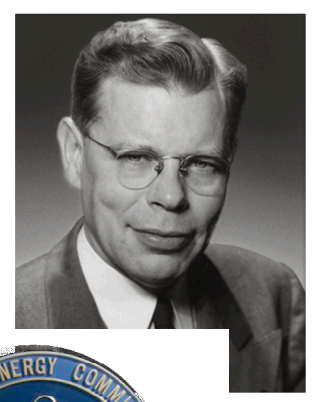
ALWAYS / NEVER
The Quest for Safety, Control & Survivability



Similar Quality Assurance Challenges?

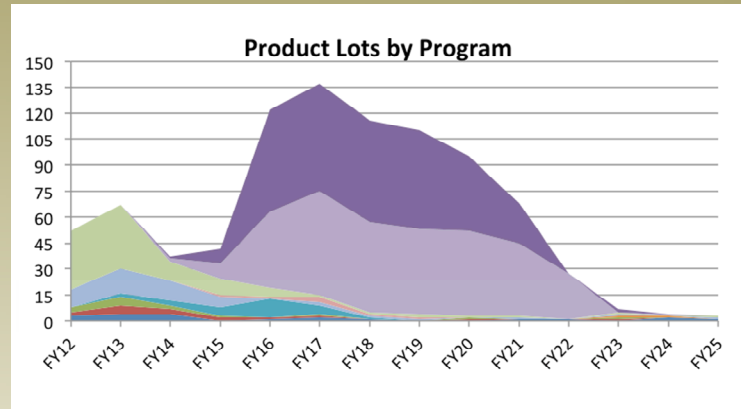
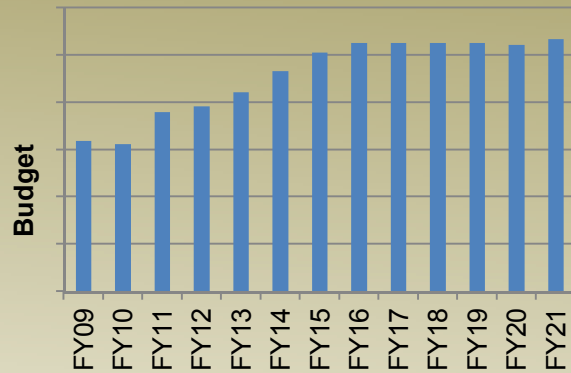


Reliance on People's Competency to Assure Quality



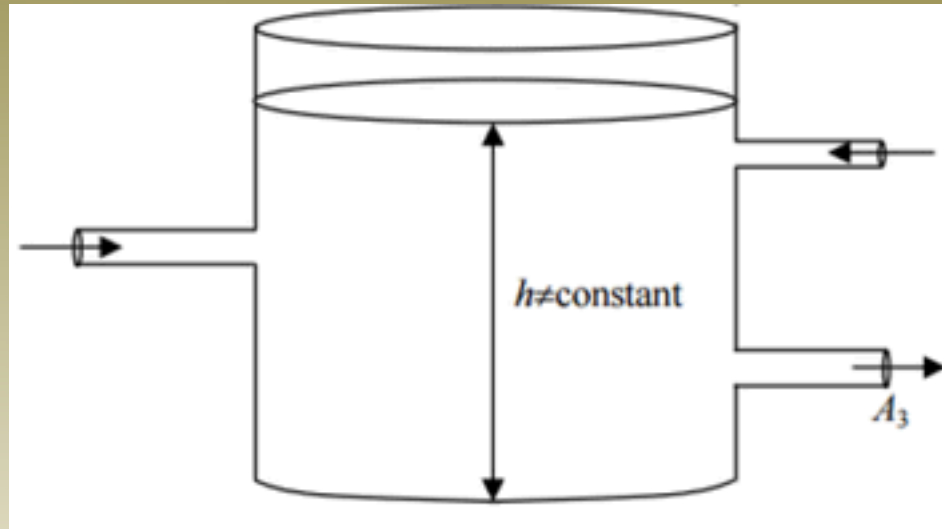
Current Environment

- Attrition and hiring
- Increasing workload
- Competing program priorities



Quality Assurance at Risk

Lots of new work,
and competing
priorities make it
hard to keep glass
full

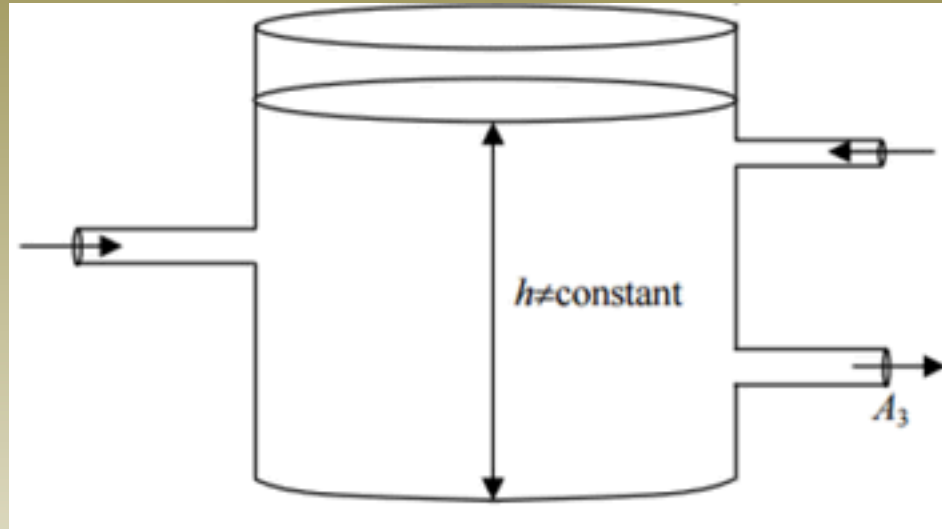


Need people to arrive
And quickly gain
competence
To keep glass full

People leaving
make
It hard to keep
glass full

A Role for the Quality Organization

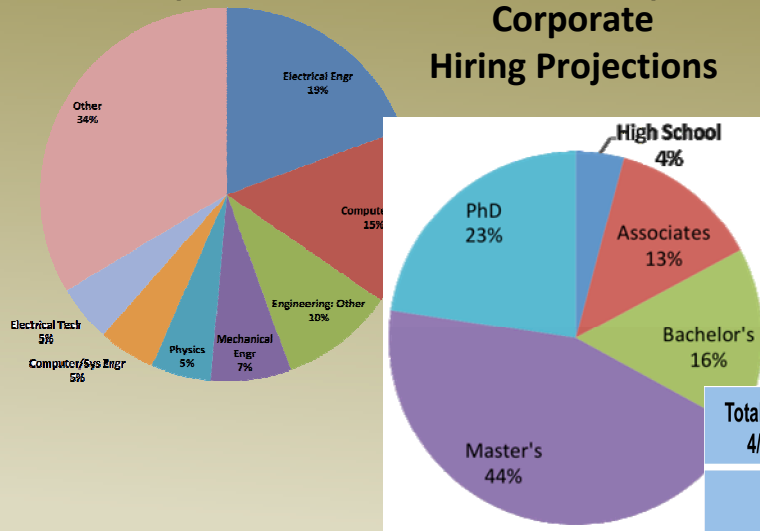
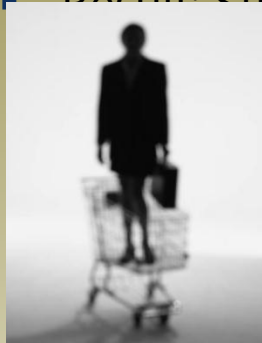
- 3. Engagement with engineering customers
- 4. Build competency



- 1. Streamlined hiring
- 2. Rapid onboarding

1. Streamlined Hiring

- Goal: Efficiently hire quality engineers with credentials on par with project teams
- Result: Streamlined processes were developed and used

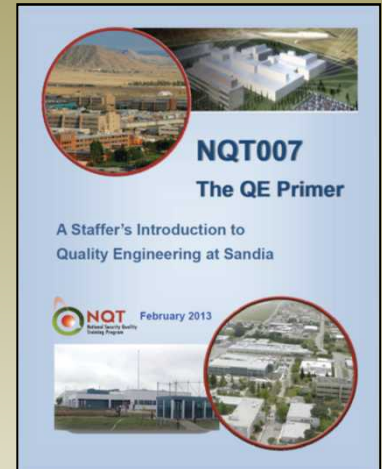


Surety Assessment, Engineering, and Analysis Center Procedure		
Procedure Name: SAEA Center Hiring Process	Status: Released	Issue Date: March 26, 2012
Identification Number: CAD-107	Issue: B	Last Self-Assessment Date: March 26, 2012
Owner: J. Rick Feilerhoff, Director	Author: Rimona Cordoba	
CHANGE HISTORY		
Issue	Change Description	Issue Date
A	Initial Release <i>J. Rick Feilerhoff</i>	08/01/11
B	Center Records Administrator performed Annual Review. Updated to current format, recent Center name changes.	03/26/12
<p>Overview: In order to have consistency within the Surety Assessment, Engineering, and Analysis (SAEA) Center, there is a need to have a single hiring process for the Center. This is mainly due to some confusion on process, points of contact, etc.</p> <p>Applicability: All Management, Personnel of Interest (PCI), Administrative, Staffing Support will follow this Process.</p> <p>Procedure Inputs: <ul style="list-style-type: none"> Checklists and Tools created at Kickoff Event </p>		

Total Applicants 4/12 – 2/13	Screened Applicants	Selected for Interview	Offers Extended
773	137	55	41

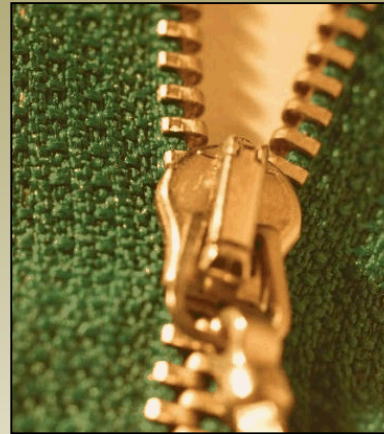
2. Rapidly Onboard

- Goal: Provide a quick-start to new hires
- Result: "Boot-camp" developed and rolled out to quality engineers



3. Engage and Inform Customers

- Goal: Establish clear lines of communication and proactively engage customers of the quality organization
- Results: Developed zipper plans, work agreements, and monthly quality



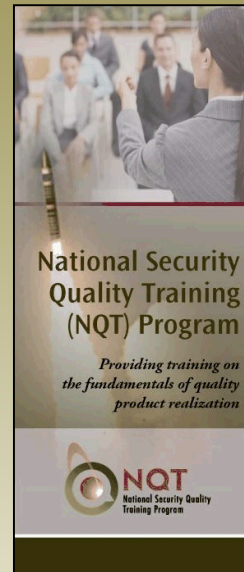
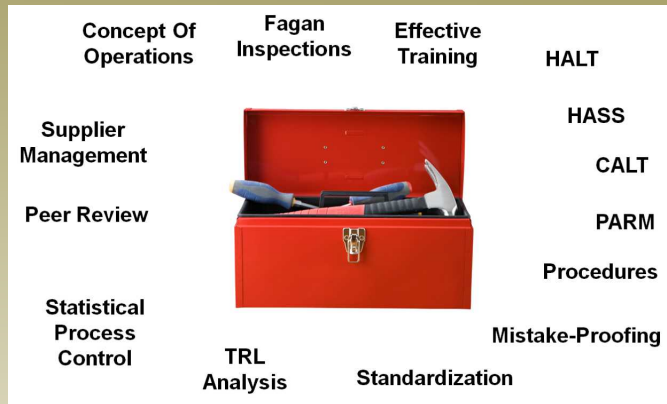
All customers on management zipper plans

Majority of quality engineer support documented in work agreements

Major programs receive monthly state of quality reports

4. Build Competency

- Goal: Provide training on engineering processes and preventive quality
- Result: Developed and deployed a corporate-wide “quality” training program



Summary

- As in high-consequence engineering organizations, quality assurance models are often heavily dependent on staff competency,
- Competency-dependent quality assurance models are at risk when the environment changes,
 - Risks in a competency-dependent culture can be mitigated through changes to hiring, training, and customer engagement approaches,
 - Quality organizations can mitigate risks in people-dependent assurance models by driving changes that benefit all

THANK YOU

Sandia National Laboratories is a multi-mission facility managed and operated by National Technology & Engineering Solutions of Sandia, LLC, a wholly owned subsidiary of Honeywell International, Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA0003525.

managed and operated by National Technology & Engineering Solutions of Sandia, LLC, a wholly owned subsidiary of Honeywell International, Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA0003525.

