The Steve Trautman Co.™
Knowledge Transfer, Quick and Clear

CASE STUDY:

Knowledge Transfer and Peer Mentoring at San Onofre Nuclear Generating Station (**SONGS**)

Introduction: In early 2010, the San Onofre Nuclear Generating Station (SONGS) began a Knowledge Transfer program to address three key problems at the site:

- Sixty per cent (60%) of on-site engineers are within 5 years of retirement.
- With each retirement, 2 – 4 people change roles thru hiring, promotion and/or transfer.
- Unique knowledge was held by many engineers with inconsistent backups designated.

SONGS needed a methodical, measurable framework and program to solve these time-sensitive issues.

I. THE BUSINESS PROBLEM

1. **Create a knowledge transfer framework** that supports proactive, methodical, measurable on-the-job training.

2. Prepare for the upcoming accreditation review audit to show how engineering training is evolving to **ensure a capable, safe workforce** in the future.

3. **Reduce ramp-up time by 50%** to bring a replacement engineer to full capacity in 18 months instead of 3 – 5 years.

II. STRATEGY

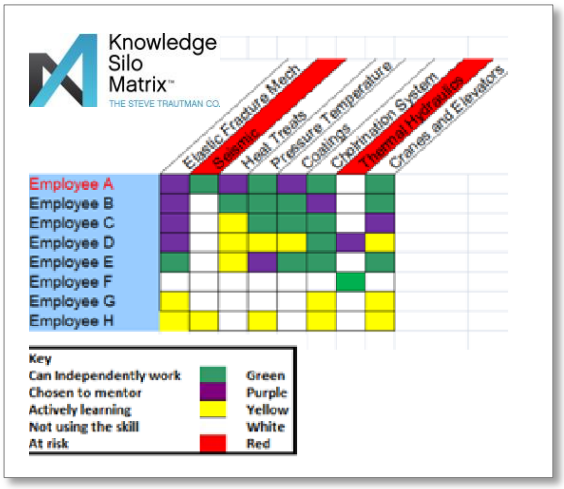
Use The Steve Trautman Co.'s 3-step Knowledge Transfer Solution to inventory SONGS's knowledge domains or "silos," identify known experts for each silo, note gaps revealed by the inventory, and then plan and train employees to fill these gaps, all under the active and engaged management of supervisors.

III. APPLICATION: THE STC 3-STEP KNOWLEDGE TRANS FER SOLUTION

STEP 1: *Assess Workforce Risk with the* ***Knowledge Silo Matrix (KSM).***

Some 350 knowledge "silos" were uncovered and documented through a process of management discussion and employee interviews.

- Once the silos were known, individual employees with silo expertise were designated "Peer Mentors" to encourage methodical development of skills with the Peer Mentor as a key training resource. (Figure 1)



- In addition to identifying silo Peer Mentors, each silo was analyzed to determine associated risks, using such criteria as mission priority, current on-site expertise, retirement window (timeframe), difficulty in hiring expertise from outside, and overall skill complexity to allow time for ramp-up.

STEP 2: *Create the plan to reduce risks.*

For each silo, a master **Skill Development Plan (SDP)** was written that broke out the individual skills required to do the work of that silo. For each employee, a customized plan to learn these skills was written and linked to their professional development plan.

SONGS now understands what silos and skills are important, who is most competent to teach those skills and who needs to learn. Managers now have a measured process for holding individual employees accountable to act as mentors and for "apprentices" to take ownership of their own training.

Skill Development Plan™
THE STEVE TRAUTMAN CO.

Skill	Sequence	Test (key below)	Date	Resources
Monitor fan performance in ventilation system	1	1,11,15	10/21/2009	site documentation, federal regulations, formal training,peer
Troubleshoot fan failures	2	1,11,15	11/10/2009	site documentation, federal regulations, peer
Review Design Basis Document	3	1,11,15	12/4/2009	site documentation,peer
Write a POD prompt operaility determination	4	1,2,3,13,14,15	12/31/2009	site documentation, federal regulations, peer,formal training
Write reportability assessment	5	1,2,3,11,13,14,15	12/31/2009	site documentation, federal regulations,peer, licensing/compliance
Review trend data on generator	8	1,2,3,8,10,14,15	10/19/2009	
Write maintenance rule evaluation	10	1,2,3,7,10,13,14,15	12/31/2009	site documentation, federal regulations, peer,formal training
Write troubleshooting plans	12	1,2,5,6,14	1/15/2010	site documentation, peer

STEP 3: *Teach how to act on the plan through the **Knowledge Transfer Workshop (KTW).***

A 2-day Knowledge Transfer/Peer Mentoring training workshop was put in place to provide 15 tools to help the on-site experts transfer their knowledge. This training program was written specifically to turn what is traditionally seen as a "soft" skill (mentoring) into a step-by-step process that is simple, even with a busy schedule.

Knowledge Transfer Workshop™
THE STEVE TRAUTMAN CO.

IV. RESULTS

1. SONGS now has in place a Knowledge Silo Matrix (KSM) populated with over 350 silos, tracking any gaps in knowledge and bench strength with individuals identified as learning the skills needed to close the gaps. The KSM also inventories every engineer on-site for a "dashboard" type view for both employees and managers to use in professional development.

2. Additionally, 45 measurable Skill Development Plans have been completed, with more than 80 currently in development.*

3. A professional knowledge transfer program now ensures knowledge is routinely transferred in a quick, methodical way.

"It had been taking at least 3 years to get a new systems engineer up to speed. Using [the knowledge transfer process], the SONGS's replacement systems engineer was working independently at 9 months and mentoring his own successor at 18 months." —A RECENTLY INTERVIEWED SUPERVISOR WHO WENT THROUGH THE KNOWLEDGE TRANSFER PROCESS.

"The mentoring training we were sent to really helped open up communication and define the goals and objectives of the mentorship. After the training, Gerry and I have been meeting every morning for 20 minutes up to 2 hours. He does not ask the questions that receive a 'yes' or 'smile and nod' response. He makes sure not to overload the 'bucket'. If I am feeling overloaded, then I tell him so, and he readjusts the lesson plan to fit my needs." —A RECENTLY INTERVIEW APPRENTICE ON THE EFFECTIVENESS OF THE PEER MENTORING.

4. The long term benefits of having a culture of knowledge transfer are now observable.

"I wish we would have done this months before Al retired. I thought I knew what his job was until we developed a plan. I had no idea that he did so much and now he is gone and I have so many more questions." —A RECENTLY INTERVIEWED APPRENTICE

*Data for this case study as of Q3 2010.