



A Leader in Supporting the Power Generation Industry



Fall 2009 Outages Industry RP Shortage Challenges & Summary



**ISOE North American ALARA
Symposium/EPRI Radiation
Protection Conference**

Overview

- Bartlett has supported the nuclear industry for >30 years
 - Commercial Nuclear Power Sector
 - Private Industry
 - Government facilities
- NEI highlights that the industry is experiencing a **collective** national shortage of radiation safety personnel
 - Technicians and experienced professionals, impacting:
 - Commercial Nuclear Power Sector
 - DOE Government resources
 - ARRA funding a contributor

Preparing for the Human Capital Challenge – BHI Actions

Since 2004 Bartlett has invested >\$2 million in pipeline development & resource management, including:

- **Chief Technical Officer Position**

Created & maintained to focus on college pipeline & NEI activities support

- Associate degree program involvement
- Time, industry contacts, consulting & travel
- Internships, Scholarships, donations, etc.
- WITF, Uniform Curriculum, RP2020, USNRC grant reviews, NA-YGN support
- ANSI committee participation

- **Personnel Management Software**

- \$1.3M investment in this advanced scheduling tool
- Exact daily location & potential open dates known for all personnel

Summary: Support Provided Technical Schools*

**as recognized by NEI*

<u>Academic Institution</u>	<u>Location</u>	<u>Industry Partners with BNI</u>
Aiken Technical College	Aiken, SC	VC Summer Station & Savannah River Site
Central VA Community College	Lynchburg, VA	Dominion
Chattanooga State Tech College	Chattanooga, TN	TVA Nuclear
Columbia Basin Community College	Tri-Cities, WA	Columbia Generating Station & Hanford Reservation
Eastern Idaho Technical College	Idaho Falls, ID	Idaho National Lab
Estrella Community College	Phoenix, AZ	APS
Hill Community College	Granbury, TX	Luminant
Indian River State College	Ft. Pierce, FL	FP&L & Progress Energy
Lakeland Community College	Kirtland, OH	First Energy
Lakeshore Technical College	Cleveland, WI	Dominion
Linn State Technical Institute	Mexico, MO	Exelon, Ameren, NPPD, OPPD, Argonne Labs
Luzerne County Community	Nanticoke, PA	PP&L
Mira Costa Community College	San Clemente, CA	SCE
Spartanburg Community College	Spartanburg, SC	Duke Energy
Western Kentucky Community College	Paducah, KY	USEC

Supplemental RP Resource Shortage – Fall 2009

For the Commercial Generation Sector:

- **Record Demand** (see following slide)
 - 34 total refueling outages
 - 3 Steam Generator Replacements
 - 2 Reactor Head replacements

- **RESULTS: A 30% SHORTAGE Existed During the Two-Week Peak Period**
 - However, few commercial work opportunities available after Nov. 1
 - Leads to individuals continuing to leave the entire nuclear industry (DOE & commercial)

Industry Fall 2009 Refueling Outage Schedule

1	McGuire	Yellow	Red	Red	Green		
2	Prairie Island	Yellow	Red	Red	Green		
3	Ginna	Yellow	Red	Red	Green		
4	DC Cook	Yellow	Red	Red	Red	Green	
5	Peach Bottom		Yellow	Red	Green		
6	Vogtle		Yellow	Red	Green		
7	Watts Barr		Yellow	Red	Red	Green	
8	Byron		Yellow	Red	Green		
9	ANO		Yellow	Red	Green		
10	Cooper		Yellow	Red	Red	Green	
11	CR-3		Yellow	Red	Red	Red	Green
12	Kewaunee		Yellow	Red	Green		
13	Seabrook		Yellow	Red	Green		
14	SONGS		Yellow	Red	Red	Red	
15	Comanche		Yellow	Red	Green		
16	Palo Verde		Yellow	Red	Red	Green	
17	Diablo Canyon		Yellow	Red	Green		
18	Millstone		Yellow	Red	Green		
19	STP		Yellow	Red	Green		
20	Point Beach		Yellow	Red	Red	Green	
21	Oconee		Yellow	Yellow	Red	Red	Green
22	Wolf Creek		Yellow	Yellow	Red	Green	
23	Beaver Valley		Yellow	Yellow	Red	Green	
24	Braidwood		Yellow	Yellow	Green		
25	TMI		Yellow	Yellow	Red	Red	Red
26	Salem		Yellow	Yellow	Red	Green	
27	VC Summer		Yellow	Yellow	Red	Red	Green
28	Sequoyah		Yellow	Yellow	Red	Green	
29	Surry		Yellow	Yellow	Red	Red	Green
30	Turkey Point		Yellow	Yellow	Red	Green	
31	Waterford		Yellow	Yellow	Red	Green	
32	Ft. Calhoun		Yellow	Yellow	Red	Red	Green
33	Dresden		Yellow	Yellow	Red	Red	Green
34	Catawba		Yellow	Yellow	Red	Red	Green

Early Alert - Bartlett Coordinating with the Industry

Bartlett recognized in the **Fall of 2008** that the Fall of 2009 outage staffing would be challenging.

March 2009: the challenge increased with the impact of the American Recovery and Reinvestment Act (ARRA) on RP resources. Based upon this additional factor we developed & presented an Action Plan, as follows:

- April 17: INPO Fleet RPM call
- April 20: Exelon fleet RPM call
- Week of 4/20: Dominion fleet RPM call
- April 21: USA Board of Directors call
- April 29: Nuclear Human Resource Group Meeting
- April 30: Briefing document included by NEI in NSIAC meeting notes
- April 30: USA RPM call
- May 5: Joint presentation with DZA at INPO RPM counterpart meeting
- June 2: Presentation at the NEI Workforce Issues Task Force Meeting
- June 10: Follow-up meetings-USA Executive Board & Management Council
- August 18: Joint presentation with DZA at NEI RP Working Group Meeting
- September 10: Meeting with USA Executive Team & RPM's
- Ongoing: Continuous contact with clients to facilitate resource management

Fall 2009 Resources Explored

- Pursued the following resources:
 - Mexican technicians
 - European Technicians
 - Shipyard Technicians
 - Canadian Technicians
 - Brazilian Technicians
 - DOE Technicians
- Bartlett Utility Managers directly contacted all “undecided” technicians in July
- Contacted other RP providers for “back-up” support in July

Results

- 50-52 foreign nationals (*including RP and decon*) from Mexico are being used. Additional retirees were considered but the language barrier precludes their usage
- Majority of European technicians normally used are not available due concurrent outages
- Shipyard technicians are being utilized at DOE facilities
- Canadian technicians posed challenges: RP shortage also exists in Canada, qualifications per ANSI Standards in question & work visas
- Brazilian technicians were utilized; seeking additional support; also posed challenges including language barriers & work visas
- DOE technicians allowed to support commercial outages (from Hanford & Savannah River Site)

Fall 2009 – Fundamental Approaches to Overcoming the Challenge

■ Fleet Organizations

- Increased resource sharing
- Intra-company challenge as to resources needed by each site
- Optimized man-loading based on schedule
- Drew resources from within the organization (former RP-qualified individuals)

■ USA Organization

- Executive Team Leadership (CEO Level lead by PSE&G, WCNOG)
- Coordinated action plan with Bartlett
- Increased resource sharing with CEO focus
- Site-by-site challenge as to actual number of technicians needed
- Optimized man-loading schedule based on outage schedules
- Shared training and “dual security badging”

Examples – EFFECTIVE ACTIONS TAKEN (1 OF 2)

Ginna	Providing early release dates.
Peach Bottom	Cut 3 Sr. HP's, and added Jr. Slots
Byron	Cut Sr. HP Slot
Watts Barr	BFN providing 12 "house" technicians in resource sharing
Cooper	Working with Ft. Calhoun to jointly utilize resources, seeking shared resources -- "dual" training individuals
CR-3	Increased Jr. HP #'s (36 JHP's) and decreased Sr. HP #'s. Also CR-3 is looking at their schedule to allow lay-offs that would possibly support later fall outages
Kewaunee	Working with Point Beach to jointly utilize resources. "Dual" badged workers. Also increased wages to match Point Beach wages, using shared resources
SONGS	Decreased Sr. HP numbers by 30% and added 15 Jr. HP positions. Also SONGS is looking at their schedule to allow lay-offs that would possibly support later fall outages
STP	Decreased their requested Sr. HP need by 10 technicians and increased their requested Jr. HP's
Seabrook	Reduced Sr. HP Numbers by 4 and added 4 JHP positions
Palo Verde	Cut 15 Sr. HP Positions, using station resources to back fill
Comanche	Seeking shared resources, working with Surry to share outage resources
Wolf Creek	Seeking shared resources; optimize lay-off schedule

Examples – EFFECTIVE ACTIONS TAKEN (2 OF 2)

Millstone	Accepting additional Jr. HP's and accepting Jr. Decon in place of Sr. Decon, re-qualifying past Dominion HP technicians. Will be using "house" interns and sharing house resources.
Beaver Valley	Reduced Sr. HP numbers by 6 to a total of 44, added additional Jr. HP Slots (4)
Braidwood	Cut 6 Sr. HP positions, added 6 Jr. HP Positions; asking permission to work a 7-12 schedule if we are unable to staff
Point Beach	Working with Kewaunee to jointly utilize resources -- "dual" badged individuals
Salem	Seeking shared resources, and as well working with TMI for later start dates
Sequoyah	Utilized shared resources intra-utility
Turkey Point	Reduced SHP numbers by 9 and added 3 JHP positions. Also increased Per-Diem \$110-\$150 based on ongoing events in the area.
TMI	Considering later start dates to support outages in the middle of the season, e.g. Salem
Ft. Calhoun	Working with Cooper to jointly utilize resources
Surry	Seeking shared resources, working with Comanche to share outage resources
DC Cook	Resource sharing BNI resources to Wolf Creek and Comanche
VC Summer	Increased JHP's; resource sharing – internal & external; selected SHP's individually; back-up exercised (gained 2;) pre-trained technicians at Vogtle; just-in-time staffing;

Overcoming the Challenge – Results Summary

To the best of our knowledge as of 12.08.09 –

Success Achieved

- ✓ No major work delays or schedule conflicts
- ✓ No regulatory issues
- ✓ No increased radiological issues due to shortage of personnel (e.g., per-cons, man-rem, etc.)

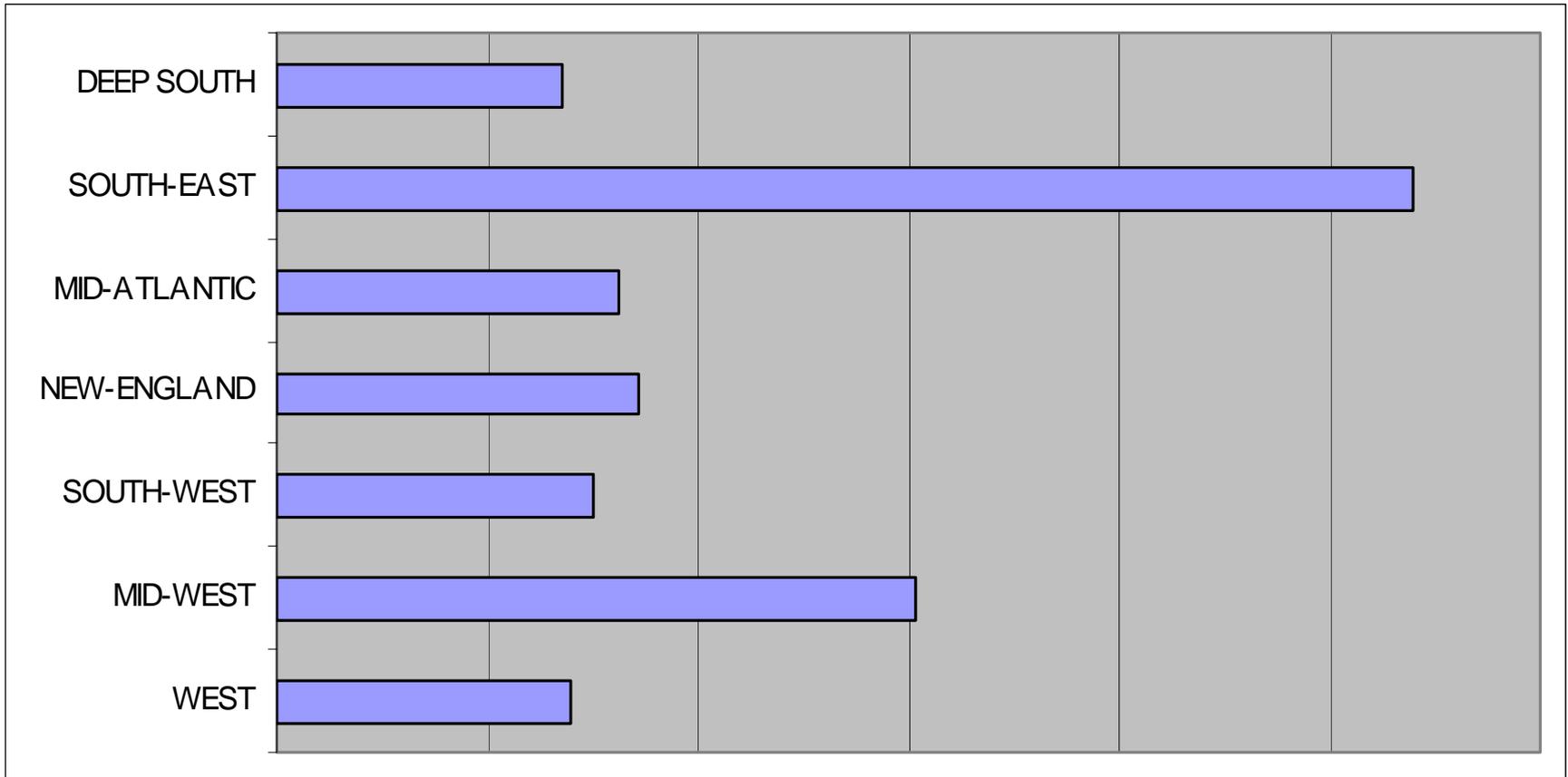


**LONG TERM
STRATEGIC PLANNING**
- *INFORMATION TO CONSIDER*

Spring 2010 Outages – No issues anticipated



Technician Demographics *(need to develop locally)*



Reference point: Midwest includes 23%-OH; 21%-MI; 20%-IL; but only 4%-NB; 3%-KS

2011 Projection – Next Major Challenge

- Reminder: based on 18 & 24-month refueling cycles in the Spring of 2011
 - >40 estimated outages
 - one scheduled SGRP
- ***Implement a solution now:***
 - ***Initiate “long term” JHP core assignments of experienced JHP’s in early 2010,***
 - ***Industry could potentially develop as many as 100-150 SHP’s by the spring of 2011***

