

Citizens for Nuclear Technology Awareness (CNTA)

Nuclear Education Programs
Presented by Don Bridges,
CNTA Chair

Presentation to
SC Nuclear Advisory Council

Citizens for Nuclear Technology Awareness

Not-for profit local organization comprised of

- Approximately 300 individual members
- 30 corporate and business sponsors (local businesses to national/international companies)
- Mission – To provide education and information on nuclear subjects for the public
- Largely a volunteer organization with
 - An Executive Director and Office Manager
 - Chairman and Vice Chairman
 - Board of Directors
 - Committee Structure





CNTA Educational Activities

- Teacher's Workshops – “Bringing Nuclear into the Classroom”
 - CNTA Speakers Bureau
 - Robert Maher Memorial Scholarship
 - CNTA High School Essay Contest
 - Journey to the Center of the Atom Presentations
 - Guest lecturers for classroom presentations
 - Southeastern Summer Nuclear Institute
- Other supporting activities:
- Up & Atom Breakfasts
 - Edward Teller Lecture/Banquet

Southeastern Summer Nuclear Institute (SSNI)

A three-day summer institute for middle and high school teachers to promote nuclear education and workforce development in the southeast, including tours of nuclear facilities (Plant Vogtle, the Savannah River Site, etc.), eight hours of workshop training, and evening programs with guest speakers on special topics. All meals and housing at USCA (if needed) provided along with reference materials and teacher guides from the American Nuclear Society.

July 15-17, 2015, Planning for 2016

Sponsored by:



Southeast Universities



CNTA Student Programs

- Robert Maher Memorial Scholarship – sponsored by Savannah River Remediation - \$5,000 award to a student who has demonstrated outstanding college level academic achievement in nuclear science/engineering.
- CNTA High School Essay Contest - \$1500 prize(\$1000 student/\$500 student's school) – goal to increase awareness of the benefits of nuclear technology among high school students in the local area.

Teacher's Workshop: Bringing Nuclear into the Classroom

- A workshop for K-12 teachers that includes **hands-on styled exercises** for use in the classroom.
- The twofold objective is to
 - Enhance the knowledge and understanding of nuclear technology and applications that are **ubiquitous in modern living.**
 - Raise awareness of the wide **variety of job opportunities** in the nuclear business locally ("**Grow Your Own!**") as well as nationwide.
- While making it **FUN** and **EXCITING!!!!!!**

Teacher's Workshop Topics

- Atomic Fundamentals
- Power Generation Fundamentals
- Nuclear Fundamentals
- Nuclear Technology Applications
- Risk (Real versus Perceived)
- Regional Nuclear Career Opportunities

Power Generation Fundamentals

Hands-on Activity

- Base Load, Intermediate Load and Peak Load generation activity



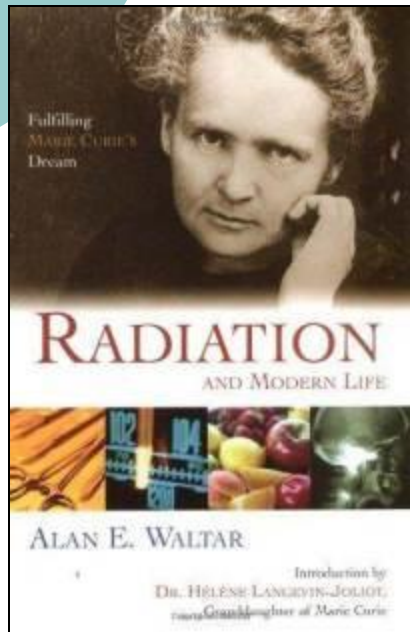
Nuclear Fundamentals Hands-on Activities

- “Interactive Chart of the Nuclides”
- NORM Interaction
- Half-life demonstration using candy
- Distance and shielding lab



Nuclear Technology Hands-on Activity

- Discovering uses of common radioisotopes using the “Interactive Nucleus” display



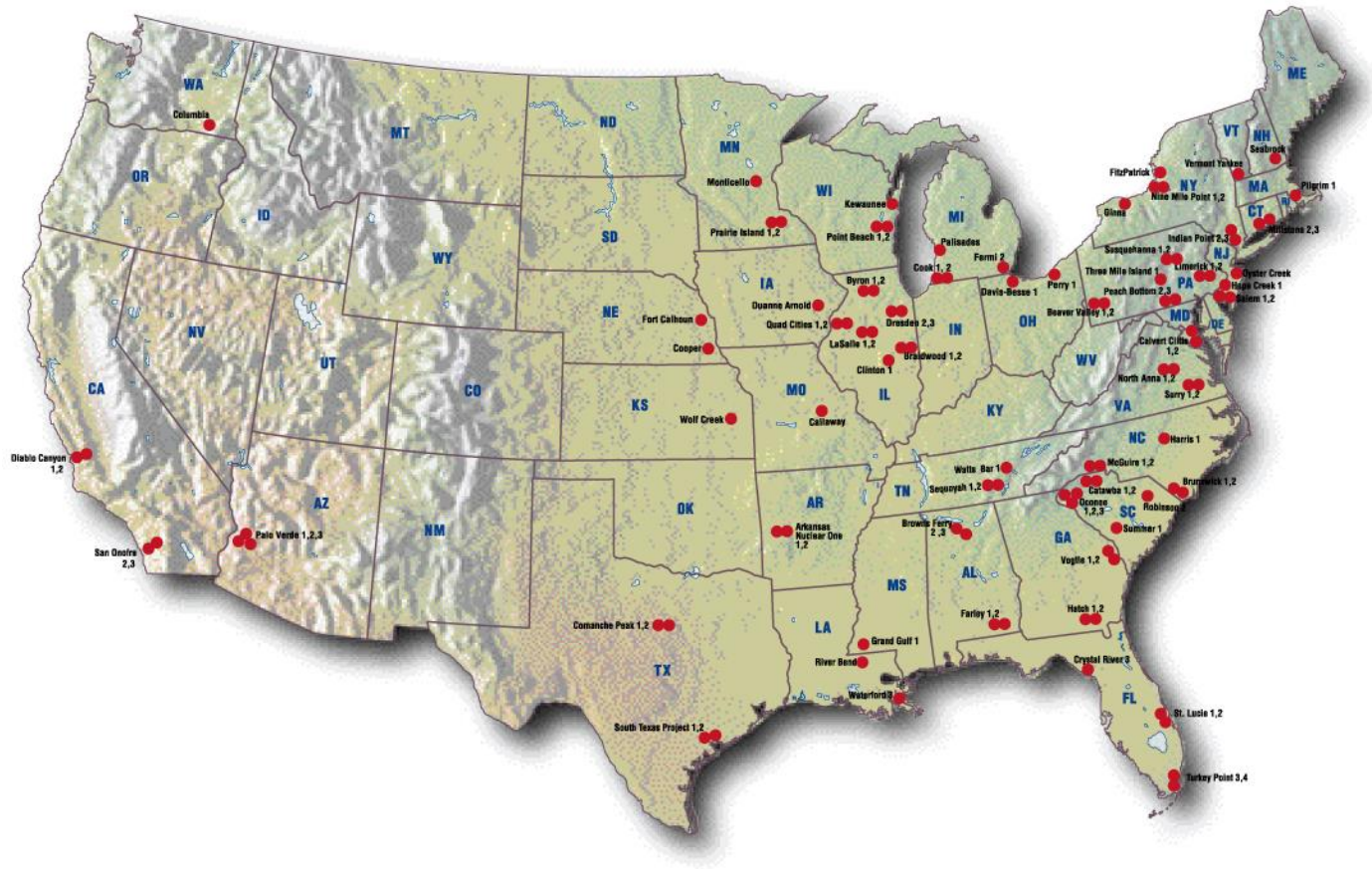
Risk Hands-on Activity

- Ranking common risks

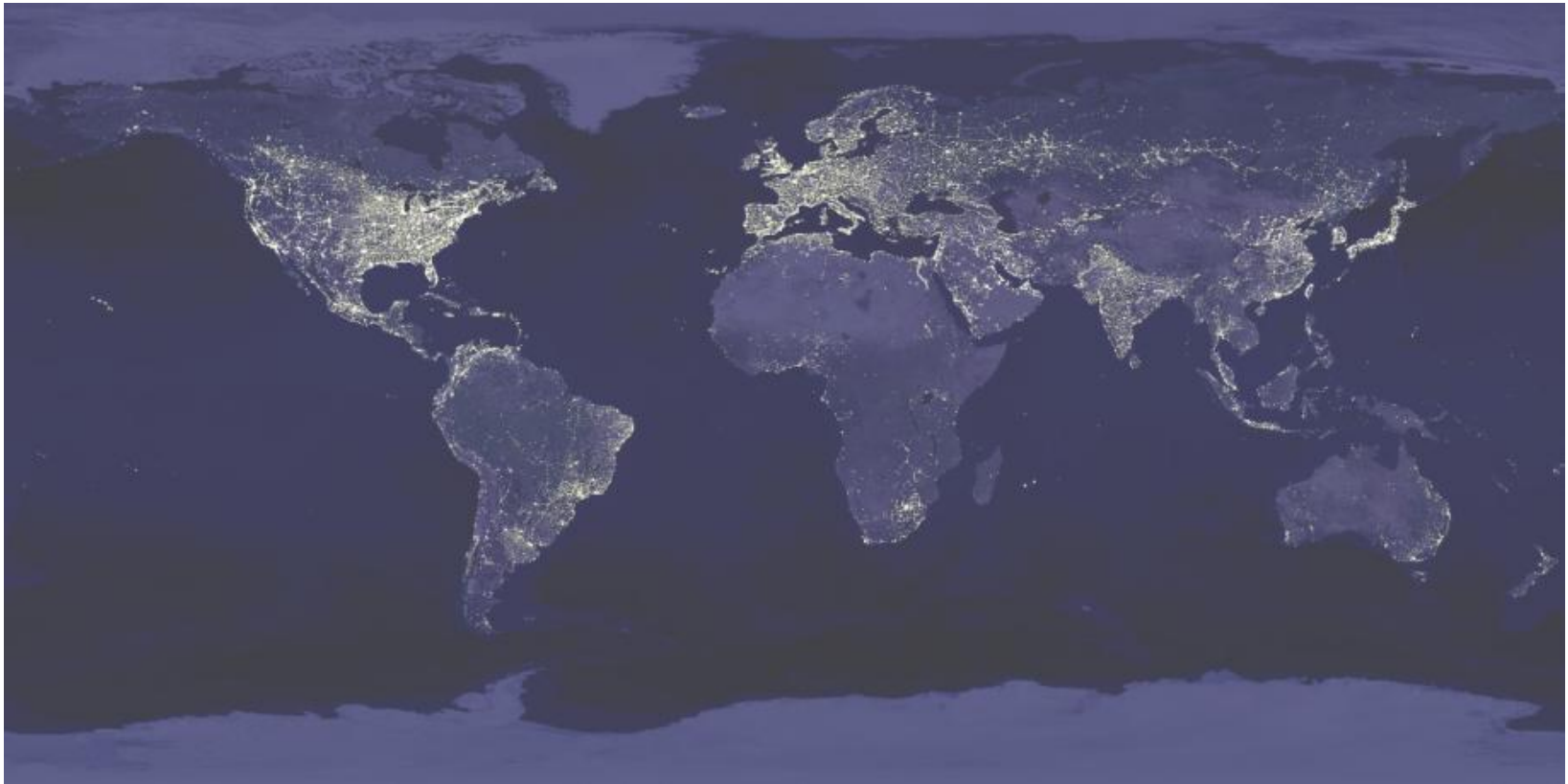


- Smoking (2000 days lost)
- Being 30 % Overweight (1300 days lost)
- Working as a Coal Miner (1100 days lost)
- Living with a Smoker (365 days lost)
- Driving a Car (200 days lost)
- Falling (39 days lost)
- Being exposed to pesticides (27 days lost)
- Drinking Diet Drinks (2 days lost)
- Flying in an Airplane (1 day lost)
- Living next to a Nuclear Power Plant (less than one day lost)

U.S. Nuclear Power Plants



Energy Lights Up The World





CNTA Education Program - Summary

- 1-day teacher workshops are held several times each year
- SSNI – 2nd Summer Institute – 2016 (25 to 30 middle and high school teachers)
- Since 2009, more than 350 teachers have participated in the workshops
- 150 to 200 high school students participate in “Journey to the Center of the Atom” presentations each year
- More than a 1000 volunteer hours support these activities each year

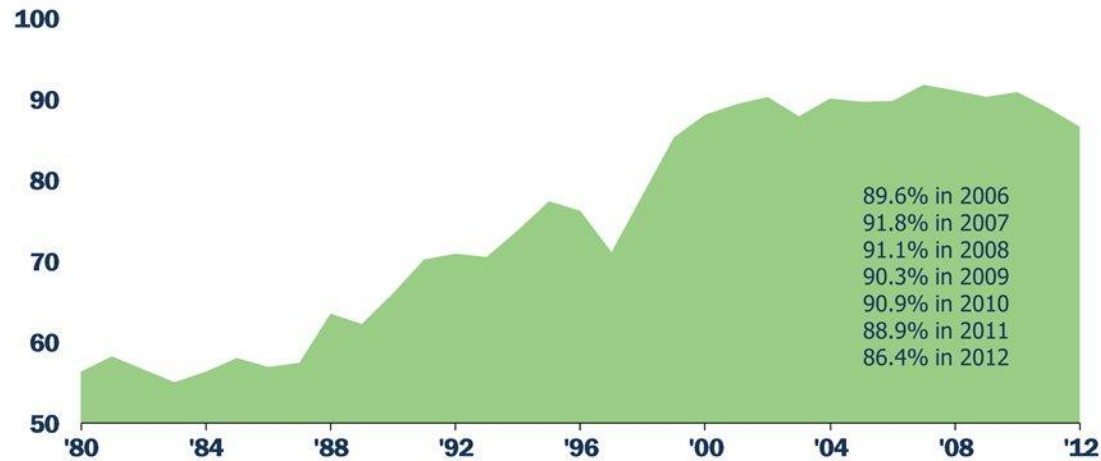


Back Up Slides

U.S. Nuclear Power Capacity Factors

Sustained Reliability and Productivity

U.S. Nuclear Capacity Factor, Percent



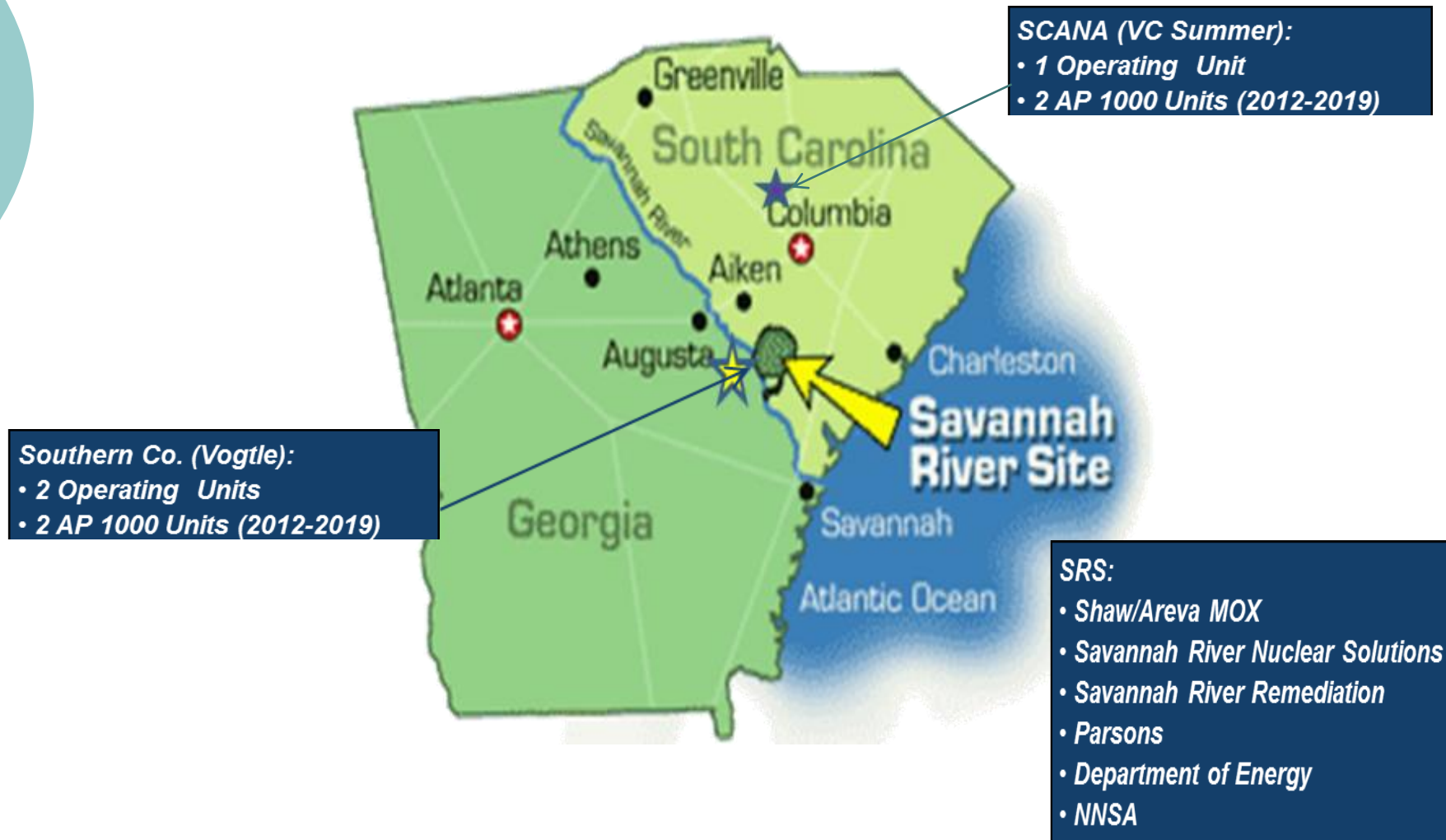
Schematic of Vogtle 3&4 with Vogtle 1&2 Operating in the Background





Extra slides (2) – Mindy will present in the workforce presentation.

Motivation for Education Outreach Program



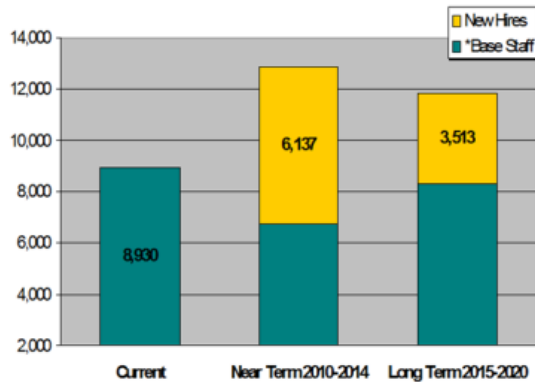
Long-Term Nuclear Skill Needs

2009 SRSCRO Study *

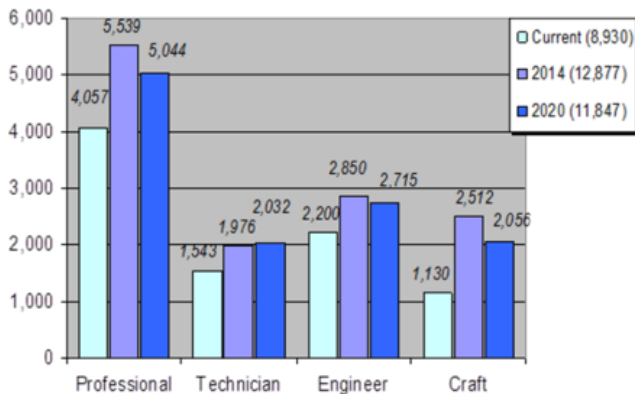
- 10,000 new nuclear workers needed over 10 years
- 8 regional nuclear employers participated
- Surveyed key industry needs (Not All Jobs)
- Professional, Engineer, Technician, Craft categories

2015 Long-Term View

- Nuclear industry workforce demand continues
- Pipeline training programs are in place
- Up to 50% of current SRS workers are eligible to retire in the next 5 years
- New SRS facilities will begin operation (SWPF)
- Construction and maintenance workforce needs continue for new power plants
- Continued hiring for new power reactor operations



* Base staff is existing staff for the period less losses due to retirements and attrition



*Source: Booz Allen Hamilton Workforce Study • Commissioned by: the SRS Community Reuse Organization