NEI Update – June 2016

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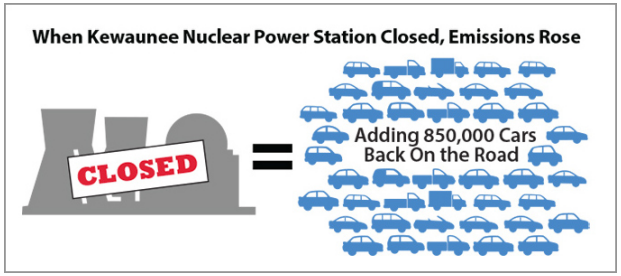
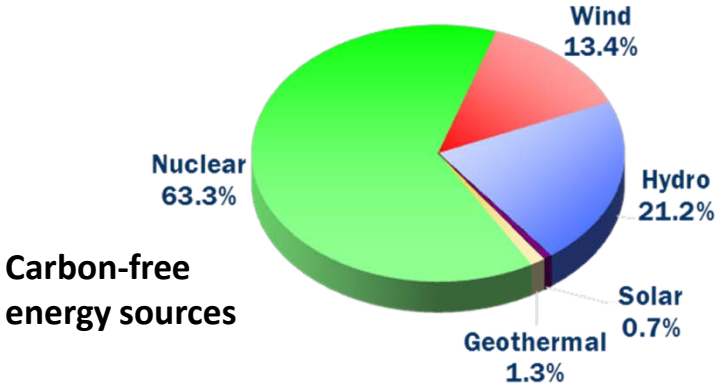
Radiation & Materials Safety

Radiological & Environmental Workshop
June 28, 2016 • Newport, RI

Nuclear Energy Institute

- The Nuclear Energy Institute is the industry's policy organization
- Broad mission -- foster the beneficial uses of nuclear technology in its many forms





NEI, with member participation…

- develops policy on *key legislative and regulatory* issues affecting the industry;
- serves as a *unified industry voice* before the U.S. Congress, executive branch, regulators;
- provides a forum to *resolve technical and business issues* for the industry; and
- provides accurate and timely *information* on the nuclear industry to members, policymakers, the news media and the public.

Regulatory Issues Update & Look Ahead

- Status – Advance Notice of Proposed Rulemakings
- NRC Inspection procedures
- Status of Pending Regulatory Guides
- *Delivering on the Nuclear Promise* & Other Ongoing Topics of Interest

NRC ANPR's

10CFR20 – *Standards for Protection Against Radiation…*

10CFR50, Appendix I – *Design Criteria for Maintaining Effluents ALARA …*

- Per letter dated 4/14/16 the Commission approved the NRC's Staff recommendations to **terminate these rulemakings**.

- Quote from Part 20: *The staff concludes that the proposed methodology and terminology changes* ***go beyond what is needed to provide for adequate protection*** *and that additional resource expenditure in this area will not result in a recommendation for a revised rule.* ***The current NRC regulatory framework continues to provide adequate protection of the health and safety of workers, the public, and the environment***.
- **Represents successful result of significant industry & NEI input into the review and comments on both ANPR's**

10 CFR 50 Industry Response Team

Marcia Anderson	ANI	Jo-Ann Pelczar	Areva
Carl Tarantino	Dominion	Jon Hanni	Duke
Chris Courtenay *	Duke	Ken Sejkora	Entergy
Karen Kim	EPRI	Kevin Burroughs	Exelon
Tom Vandermey	Fermi	Sam Wender *	FENOC
Steve Shapiro	Nuscale	Jim Key	Key Solutions
Tammy Just	Southern	Marilyn Magenis	Palo Verde
Laura Stoicescu	STP	Ken Kawabata	STP
Betsy Langille *	TVA	Ken Fredrickson	STARS
Rick Adams	Xenuclear	Steve McCamy	TVA
Jerry Bonanno	NEI	Jerry Hiatt *	NEI
* - Issue Team Lead			

EPA ANPR

40CFR190 – EPA Regulation *Environmental Radiation Protection Standards* …

- EPA review of > 24,000 comments continuing
- Decision on whether to proceed/cancel rulemaking expected in 2016
  - If proceeds changes could require alignment of NRC regulations/Reg Guides
- Of the 6 initial issues presented three could have **significant** impact:
  - Issue 1 Consideration of a **Risk vs. Dose Limit** to Protect Individuals
  - Issue 2: Updated **Dose Methodology** (use of international concepts)
  - Issue 4: **Water Resource Protection**

NRC RP Inspection Procedures

- Revisions are completed and are in use
  - NOTE: No opportunity for industry review
  - Be sure to review the new inspection procedures before your next inspection!

- NEI Distributed the Procedures 71224:
  - Attach. 01 *"Hazard Protection & Exposure Control"*
    - Contains some new elements – please review
  - Attach. 05 "*Radiation Monitoring Instrumentation*"
  - **Attach. 06 "*Gaseous and Liquid Effluent Treatment*"**
  - **Attach. 07 "*Radiological Environmental Monitoring Program*"**
  - Attach. 08 *Rad. Waste Processing, Rad. Solid Waste Processing & Rad. Material Handling, Storage, & Transportation*

Other Pending Regulatory Guides (1 of 2)

4.13, *"Environmental Dosimetry…"* (will be published as **DG-4019**)

- Has not yet been issued for "official review." NEI will coordinate comments when issued.
  - **Volunteers Will Be Needed!**
- Will endorse ANSI/HPS N13.37 – used as the basis for **EPRI** facilitated training based on the Duke Program
  - Exelon is using as a basis for assessments
- Landauer hosted webinar in June & was a topic on REEW Training day

Other Pending Regulatory Guides (2 of 2)

DG 4025, *"Assessment of Radioactive Discharges in Ground Water to the Unrestricted Area at Nuclear Power Plant Sites"*

- Published in Federal Register 12/11/15 – comments submitted on 2/9/16

- Terrific industry/vendor support – especially hydrogeologists
  - Included review of calculation spreadsheet
  - Requested clarification of some terms, definitions, references
  - Overall – no major issues because sites are using more complex modeling

- NRC currently addressing comments

DG 4025 Response Team

Marcia Anderson	ANI	Laura Pring	ANI
Jack Krause	Davis Besse	Eric Merchant	DC Cook
Daron Tanko	Duane Arnold	Janet Aremu-Cole	Duke
Pat Donahue	Entergy	Ken Sejkora	Entergy
Karen Kim	EPRI	Scott Sklenar	Exelon
Sam Wender	FENOC	Jim Key	Key Solutions
Rick Orthen	NextEra	Jeannie Bell	Palo Verde
Don Mayer	Independent	Matt Darois	RSCS
David Scott	RSCS	Tammy Just	Southern
Ken Kimsey	TVA	Nima Ashkeboussi	NEI
Jerry Hiatt	NEI		

Other Ongoing Topics of Interest (1 of 2)

Environmental TLD Evaluation

- Continues to attract interest from NRR & questions from regional inspectors
- 19 utilities participated on 10/14/15 EPRI facilitated Webinar describing the Duke process
- Landauer hosted a webinar on 06.22
  - *Enhanced Analytical Methods for Environmental Dosimetry*
- Annual reports submitted in March
  - Were your TLD results evaluated before submittal?

Other Ongoing Topics of Interest (2 of 2)

- Groundwater Protection Initiative (NEI 07-07)
  - "Peer Reviews" by industry volunteers ongoing
  - Volunteers still needed

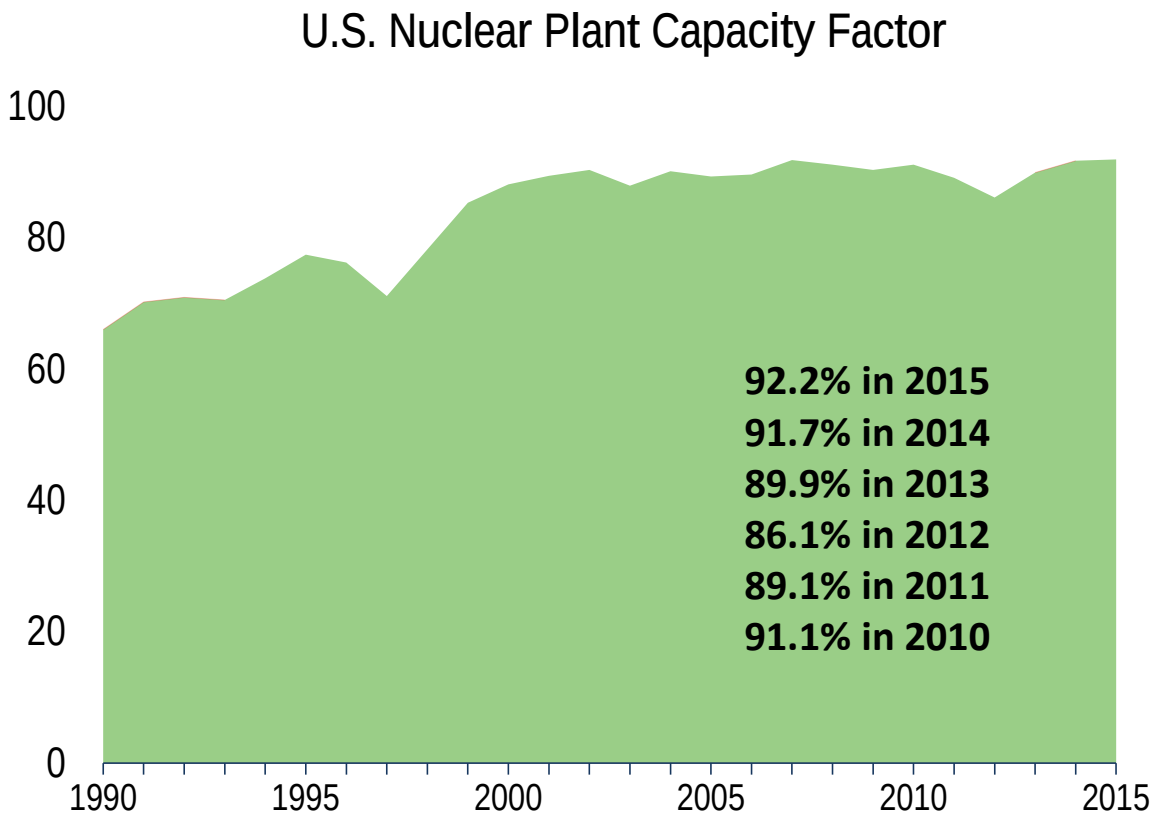
Teena Roeder	Brunswick	Al Percival	Davis Besse
Erik Merchant	DC Cook	Martin Wright	Diablo
Carl Tarantino	Dominion	Janet Aremu-Cole	Duke
Ron Heun	Exelon	Heather Baxter	Harris
Stu Torf	Millstone	Austin Wallach	Oconee
Steven Andrews	Palisades	Josh McDowell	Palo Verde
Mark Stuhlman	Quad Cities	Bill Spell	River Bend
Ken Kimsey	Sequoyah	Ashley Schlemmer	St. Lucie
Bill Rigby	Turkey Point	Barry Muller	Independent

NUCLEAR MATTERS
my work • my plant • my industry

Delivering the Nuclear Promise: Advancing Safety, Reliability and Economic Performance

Record Capacity Factor in 2015

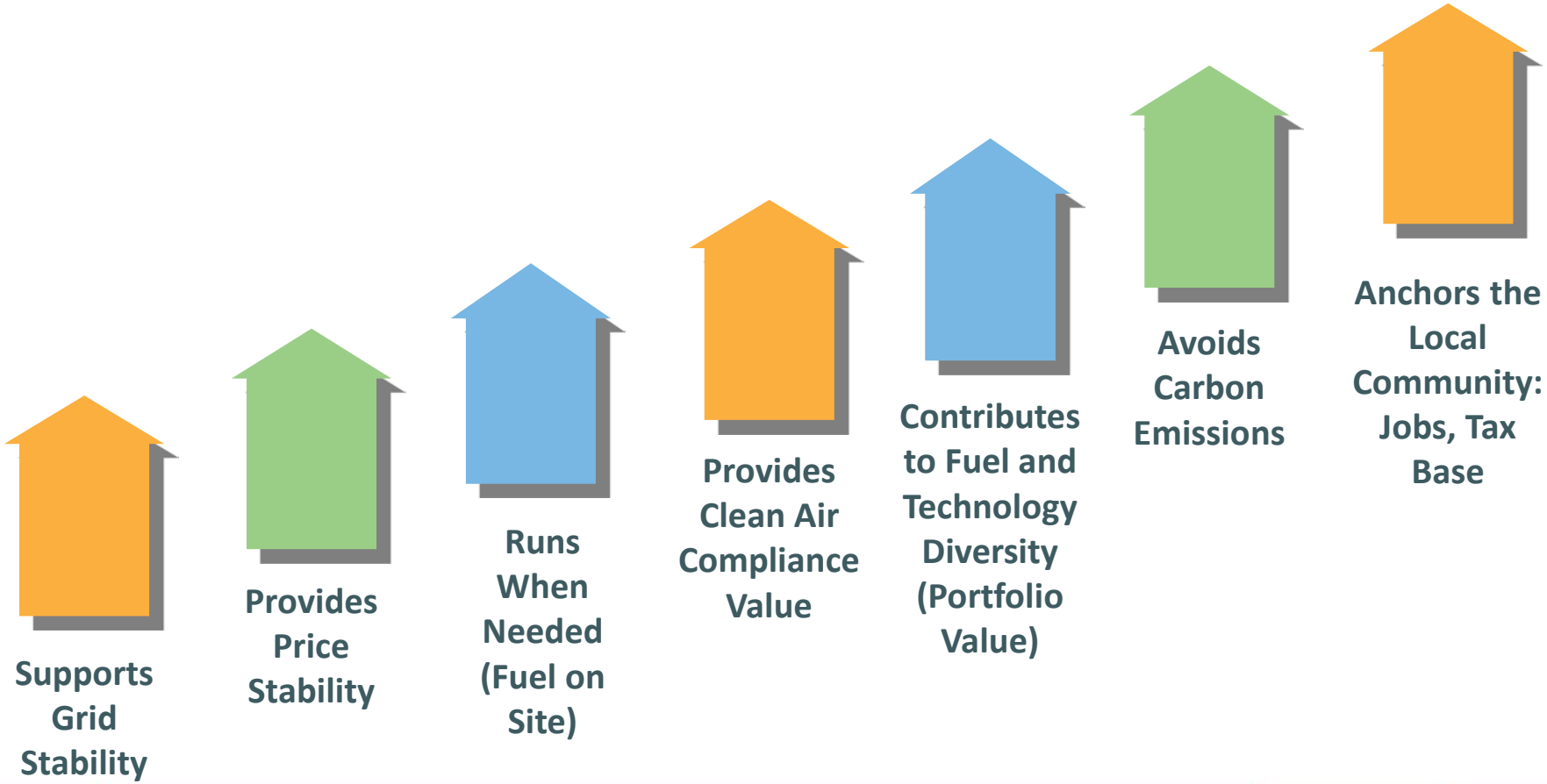
- U.S. reactors set record 92% capacity factor, generated 798 billion kilowatt-hours of electricity.



Source: Energy Information Administration

Nuclear Energy's Solid Value Proposition

Safe, Reliable Electricity 24/7 Plus …



Nuclear Energy's Economic Challenges

- Electricity demand is flat; marginal growth
- Sustained low-cost natural gas
- Subsidized wind
- Flawed electricity markets
- Heavy regulatory burden
- Heavy industry burden
- Heavy self-imposed burden

Quad Cities – 2.8 cents per MW-hr & still not economically viable …

Outlook

- Several U.S. nuclear plants have shut down, or will soon
- Generating costs at U.S. nuclear plants have increased 28% during the last decade
- "Business as usual" approach will not successfully address the challenges of rising costs and inadequate revenue
- It is <u>not</u> a merchant plant issue – it's an industry issue

Industry Goals

- Continue to enhance the already high levels of safety and reliability
- Identify opportunities and re-design fundamental plant processes to improve efficiency and effectiveness
- Use innovative technology to increase efficiency across the industry
- Educate and drive awareness of the value of nuclear energy – particularly the economic and environmental benefits

Teams and CNO Leads

- **Corrective Action Program:** Danny Bost, Southern Nuclear
- **Engineering:** Tim Rausch, Talen
- **Preventive Maintenance Program Scope:** Neil Wilmshurst, EPRI
- **Radiation Protection: Fadi Diya, Ameren Missouri**
- **Regulatory Efficiency:** Mano Nazar, NextEra Energy
- **Security:** Bryan Hanson, Exelon
- **Training:** Randy Edington, APS
- **Transform the Organization:** Tim O'Connor, Xcel Energy
- **Work Management:** Dennis Koehl, STP
- **Supply Chain Efficiency:** Adam Heflin, Wolf Creek Operating Corp.
- **Oversight and Assessment:** Mano Nazar, NextEra Energy
- **In-Processing:** Bill Pitesa, Duke Energy
- **Finance - Review IO Savings Estimates:** David Heacock, Dominion

DNP RP Team
Fadi Diya, CNO Ameren

- Betsy Langille, TVA
- Chris Church, TVA
- David Thompson, Duke
- Doug Noble, FENOC
- Harry Bush, Exelon
- Kevin DeGraw, Ameren
- Johann Geyer, Ameren
- Mark Rigsby, Duke
- Mike Skiles, WCNOC
- Willie Harris, Exelon
- Kevin Pushee, INPO
- Paul McNulty, INPO
- Ellen Anderson, NEI
- Jim Kost, Mirion
- Jimmy Orr, BHI Energy
- Anna Jerry, IBEW
- Jeffrey Hughes, Boilermakers
- Cecile Conroy, Boilermakers
- John Fultz, Boilermakers

NEI Efficiency Bulletin

- Mechanism for communicating efficiency improvement initiatives to industry
- Includes background, summary description, relevant standards, guidance reference, recommended actions, change management
- Color coded for accountability/implementation
  - **All must do (red),** all should do (blue), company discretion (green)

Progress Report

- The industry has issued 14 efficiency bulletins as of 06.15.16
- 25 more efficiency bulletins scheduled for completion this year
- The program will run through 2018 and will be institutionalized
- Weblink:
  - http://www.nei.org/Issues-Policy/Delivering-the-Nuclear-Promise/Efficiency-Bulletins

Delivering on the Nuclear Promise

- Four RP related Efficiency Bulletins Published to date:
  - **EB 16-03**, *"Align Personnel Contamination Event Response to Industry Guidance"*
  - **EB 16-04** *"Source Checking Personnel and Tool Contamination Monitors"*
  - **EB 16-12** *"Long-Term Dose Reduction Plan – Graded Approach"*
  - **EB 16-13** *"Perform Self-Briefs for Low Radiological Risk Activities"*
- Others scheduled in RP for 2017 includes:
  - *"Self Monitoring,"*
  - *"Frequency of Portable Survey Instrument Source-checks"*

Upcoming Meetings in 2016

Discussion?

NEI
NUCLEAR ENERGY INSTITUTE

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NEW POWER PLANTS
Providing **19.5%** of U.S. electricity and **62.9%** of U.S. emission-free electricity.

EFFICIENCY
Nuclear power plants operate **24/7 at a 92% average capacity**, allowing us to provide efficient, affordable and reliable power.