Group (B&W) Facilitator –Steve Edelman

ALARA Challenges / Lessons Learned – what has not worked?

Steve Edelman – Three Mile Island

- First success - Use of Virtual Radiation Systems for Training
  - Q-Track
  - Sim-Tech
- Second success – General Area Dose Reduction
  - Use of CZT, H3D Gamma Cam
  - Reduction in base dose from 60 mRem/week to 30 mRem/week
    - 14 new shielding packages installed

Bill Lehmbeck – Kewaunee

- First success – Decay of isotopes
  - Natural
- Second success –
  -

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ALARA Challenges / Lessons Learned – what has not worked?

Charlotte Blue – Calvert Cliffs

- First success – Innovation
  - New Technology (CZT, Gamma Cam, RMS…)
- Second success – RMS Support
  - VP/SLT very supportive of the use of the system

Harry Miller- Palisades

- First success – Sockelete Welds (Pressure Boundary)
  - Steam Generator drain valve use (Westinghouse new standard)
  - Braidwood and Byron both approved use.
- Second success – Design Engineer
  - Hire a temp design Engineer to work on Permanent Shielding Packages

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ALARA Challenges / Lessons Learned – what has not worked?

George White- Palo Verde	➢ First success – VP Support for RMS • Craft and SLT all support ➢ Second success – Fiber Optics and WiFi installation • 67 HD Cameras (Outage only) • Complete by end of 2017 (FHB/Aux/RW)
Barry Trachim - AREVA	➢ First Success – Full Scale Mock-up for Cavitation Peening ▪ RP took control of project ▪ RP, Craft, Planners, Weekly calls (1 year) ▪ RP leads participation at Lynchburg

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ALARA Challenges / Lessons Learned – what has not worked?

Steve Edelman – Three Mile Island

- First challenge – Rx Building Dose Rates
  - T1R21 had elevated dose rates 2x – 3x higher
    - Co-60 (81.5%) become predominate isotope.
    - Steam generator material corrosion promoted elevated nickel and cobalt release from the Once Through Steam Generators (OTSGs), which was introduced into the primary system, activated, released from the core and deposited on the oxide corrosion layer of primary piping and components over time.
- Second challenge – Aux Building Dose Rates
  - Aux Building dose rates elevated
    - Ag-110m (79% dose rate contribution)
    - Decay Heat Valve DH-V-4B silver plated seal ring found severely degraded during valve maintenance

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ALARA Challenges / Lessons Learned – what has not worked?

contributing to the significant increase in Silver-110m causing elevated dose rates on make-up system components in the Auxiliary Building.

Bill Lehmbeck - Kawaunee

- First challenge – ISFSI Campaign
  - Cleanup of SFP
  - Reduce staffing (Knowledge vacuum)
- Second challenge – WEB retention of Decommission sites
  - Storage location for all sites to view
  - Capture OE

Charlotte Blue – Calvert Cliffs

- First challenge – Outage Estimates
  - Challenges to meet the BP Goal
  - 90 Rem actual versus 53 Rem Estimate
- Second challenge – High Emergent Dose
  - ~30% per month

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ALARA Challenges / Lessons Learned – what has not worked?

Harry Miller - Palisades	➢ First challenge – Upper Internals • Stick 5’ out of water • High Dose (75 Rem per Outage for refuel floor) • General Area dose rates 30 – 50 mrem/hr. • 6 Rem for Rx Head Shielding per outage ➢ Second challenge – Water Management • Transfer 0.08u/cc to tank near CR • Use same water for flooding canal
George White – Palo Verde	➢ First challenge – HRA Control on HEPA System (Green NCV) • Airborne event with Steam Generators • Zephyr tooling (expels air during use)

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ALARA Challenges / Lessons Learned – what has not worked?

- Second challenge – Tracking emergent Online & Outages
  - Engagement in ALARA Goals/Ownership/Rework

Golden Nuggets:

- **Three Mile Island – Use GoPro for shutdown walk downs/Poker Chips**
- **Kewaunee -**
- **Calvert Cliffs – Laser scans, Go Pros, use of tree trimmer for cutting wire at RCP.**
- **Palo Verde – ALARA Advocates (Departments estimate their own dose)**
- **Palisades - na**