

Breakout Sessions
RP ALARA Conf. 2025 Winter



- 1. Ice Condenser, BWRs, CANDU, CE**
- 2. Westinghouse 4-Loop Group (A)**
- 3. Westinghouse 4-Loop Group (B), B&W**
- 4. Westinghouse 2&3-Loop**

Breakout Sessions
Ice Condenser, BWRs,
CANDU, CE





**Limerick
Robin Miller**

- First success – Auto POD report implemented-RPM and online planner driven- better work life balance
- Second success – New rad engineering tech developed program to track radiation levels in steam affected areas, mapping dose rates, helps anticipate moisture carry-over dose impacts

**Palo Verde
Eilert Meyers**

- First success – Developed a program to improve radworker behaviors. T2-RW behaviors plan challenged. Challenges performed on top 3 top dose contributors. Teams developed to attack the top dose contributors and radiological risk jobs. Site wide team consisting of 8 ALARA personnel and FLS performed 2-3 observations per week resulting in no major radworker issues
 - Second success – KT&R for RPTs. 3-5 yrs of data on video library. Accomplished by recording remote monitoring, creating job coverage scripts, use of one note, pictures and RWPs. RPT owned and maintained.
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**Watts Bar
TJ Cook**

- First success – Previously received a white finding for workers unplugging heap units. VP/Plant manager supported dedicated power supplies with locking outlets. EM dedicated support obtained.
- Second success – Had a GDAR in place related to PAPRs. Changed over to Max Air PAPRs- 1st outage they never lost a power pack

**Clinton
Frank Owens**

- First success – Technical Tuesday, System Wednesday, Procedure of month with quiz (NEW)-FLS developed. Recognized by NSRB. Potential to incorporate across fleet.
- Second success – Started reducing HWC for entry into steam-affected areas. 200-400 mR/hr dose rate reduction realized around MSLs. HWC reduced from 12 scfm to 6 scfm for steam-affected are entry.



**Barakah
Iman Alhosani**

- First success – 1-2 dose advocates perform online dose estimates for shops. Engineering supports shops for planning purposes. Radworkers are able to access all survey data. Shops have access to VSDS, a virtual tour with 3000 scans, dose simulation, and building monitors. These tools help with planning. ALARA personnel peer review dose estimates
- Second success –Centralized telemetry room. Implemented a 3 phased approach to improve telemetry on site.

**Group – BWR's, ICE, CANDU, CE
Challenges – What has gone wrong**

Facilitator: Frank Owens

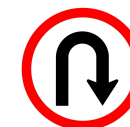


**Palo Verde
Eilert Meyers**

- First challenge – wi-fi upgrade pushed out 6 years. Communications need improvement, Spotty telemetry coverage.
- Second challenge – RCP oil issues 4 recent entries. Previous entries were 20 years ago. 1st entry received 800 mrem. Not thought of as significant dose by station, so entries have become routine. 4 out of 6 RCPs have oil issues.

**Limerick
Robin Miller**

- First challenge- Emergent dose due to steam leaks, and planning processes associated with condensate filter demins.
 - Second challenge- Moisture carryover driven by GNF3 fuel, core design, and steam dryer, 70 curies projected for outage. Also have Fe issues- transport mechanism for Co-60
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**Clinton
Frank Owens**

- First challenge – emergent dose /equipment reliability
- Second challenge – Chemistry does not work 24/7. Impacts timely air sample results. Noble gas air samples cannot be counted.

**Watts Bar
TJ Cook**

- First challenge- 3 days a week in CTMT resulting in a slow build up in CRE.
 - Planning schedule issues
 - Second challenge-Solid 5-year ALARA plan difficult to created due to late project adds and ever-changing work scope.
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**Barakah
Iman Alhosani**

- First challenge- RP/Radworker proficiency and fundamentals. 80 nationalities. Utilizing a team with English speaking /translators. English is standard language. Not enough time to learn English language in an outage. Additionally, workers have different standards.
 - Second challenge- Dose tracking, cannot track by work order, rely on eSOMs, word of mouth. Challenging during outage and online periods, No turnovers on dose. Dose advocates not the best
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Golden Nuggets:

- **Clinton – Exam for procedure of month**
- **Watts Bar- New dewatering units, New grapple unit for liner. New VP, Plant Manager, RPM all experienced. Site allowed extra spending. During outage -hd3d cameras for crud burst.**
- **Palo Verde- RP tabletop-teaching and learning. Identify high risk and infrequently performed jobs, Assign RP crew to project to develop project slides and training plan for outage. Crew and Supervisor held accountable for results**
- **Limerick- Drywell outage books for valve locations , references to Digital Plant Viewer.**

**Group – BWR's, ICE, CANDU, CE
Challenges – What has gone wrong**

Facilitator: Frank Owens



- **Barakah- RWP dose rate alarm setpoint adjustments. RP/workers received a lot of dose due to artificially high dose rate alarm setpoints. Procedure revised. ED now used as a tool**

Breakout Sessions
Westinghouse 4-Loop Group A



Group - PWR, 4 Loop Facilitator: Felix Martinez
Successes – What has gone right



(Plant)
(Representative)
Callaway
Adam Gilliam

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- First success
 - First success was with the Dry Fuel Storage Campaign, where we set a lower dose goal than in the previous three campaigns. Although a couple of casks didn't meet this goal initially, project management worked closely with different groups to address these issues. We stopped taping the annulus gap, which helped in dose reduction, and Radiation Protection oversight played a key role by breaking down each piece of work to focus on minimizing radiation exposure, leading to incremental milliroentgen savings.
 - Second success
Second success involves the ALARA Roadshow, which we've been implementing for several cycles now. This initiative involves going to all the shops to brief work groups with a slideshow, effectively getting information out to everyone, screening out weaknesses, and enhancing radiation safety practices across the board.
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Group - PWR, 4 Loop Facilitator: Felix Martinez
Successes – What has gone right



(Plant)
(Representative)
STP
Eric Hood
Randall Sickler

- **First success –**
The adoption of Sentinel a couple of years ago, where we tackled various technological hurdles. We partnered with a company to develop Power BI reports and other tech solutions, bringing in a professional who could fluently communicate with our IT group. This collaboration has been vital for continuously bridging the gap between technological challenges and their resolutions, enhancing our system's efficiency.
 - **Second success –**
Our second success involved leveraging the expertise of retirees from Radiation Protection (RP). We managed to bring back a few of these experienced individuals during outages to serve as technicians. Their return has substantially alleviated the pressure on our current staff, significantly reducing the instances where we are forced into less optimal working conditions, such as using generators or relying on forced air. These 30-year veterans bring invaluable knowledge, ensuring that our operations during these critical periods are both safer and more effective.
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Group - PWR, 4 Loop Facilitator: Felix Martinez
Successes – What has gone right



(Plant)
(Representative)
Diablo Canyon
Felix Martinez

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- First success – We've integrated 3D Printing into our processes, adopted Artificial Intelligence through our partnership with Atomic Canyon, and expanded our use of laser scanning and virtual imaging platforms. These technological advancements have streamlined our work, improved accuracy, and opened new avenues for innovation.
 - Second success – Improved coordination of work planning, where work groups have made it a routine to include Radiation Protection (RP) specialists in the planning phase. This inclusion ensures that safety considerations are embedded from the outset, leading to more efficient, safer work practices and a reduction in last-minute adjustments or safety oversights.
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Group - PWR, 4 Loop Facilitator: Felix Martinez
Successes – What has gone right



(Plant)
(Representative)
Seabrook
Michael Smith

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- First success – During the 2024 outage, we achieved the lowest radiation dose in the plant's history, a testament to our enhanced safety protocols. Previously, we meticulously tracked doses down to every tenth of a millirem, but now we've shifted to rounding to whole numbers, recognizing doses under 0.5 millirem as negligible, effectively reporting them as 0 mR net dose. This change was particularly impactful in our diving operations, where we've successfully minimized work to 3-hour increments to limit radiation exposure. Exceeding this timeframe significantly impacts radiation exposure levels.
 - Second success – Our second success stems from the operations manager taking charge of Radiation Protection (RP), which has notably accelerated efficiency within the group, streamlining processes and enhancing our overall safety and performance metrics.
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Group - PWR, 4 Loop Facilitator: Felix Martinez
Successes – What has gone right



(Plant)
(Representative)
Vogtle 3&4
Joe Campanella

- First success – Our first success was bolstering our team with a wealth of experienced technicians from various power plants alongside hiring junior techs. This strategy ensures that when less frequent or specialized tasks arise, seasoned technicians are paired with junior ones, fostering a learning environment while maintaining high operational standards.
 - Second success – Our second success involved conducting a thorough benchmarking exercise in planning, particularly with the integration of a startup source with a radiation level of about 58-R. We researched how other plants managed similar sources, then conducted dry runs using dummy source bundles to meticulously test our procedures. By employing RFID meters, we achieved the most realistic simulation of conditions, which was crucial for safety. Remarkably, despite the source's intensity, the total radiation exposure for the entire job was kept at or below 10 millirems, showcasing our commitment to safety and efficiency through detailed preparation and innovative technology use.
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Group – PWR, 4 Loop Facilitator: Felix Martinez
Challenges – What has gone wrong



(Plant)
(Representative)
Callaway
Adam Gilliam

- First challenge – We're moving away from traditional "Callowayisms," specifically the practice of having dose rate ranges posted on signs in each room, which had been standard for years. Previously, any area within the Radiologically Controlled Area (RCA) open for access was required to display these dose rates. However, we've recently eliminated these Dose Rate Ranges (DRRs) signs. The challenge now is that workers are not accustomed to referencing survey maps instead. While our web viewer allows access to any survey map from any workstation, encouraging radworkers to adopt this new method of checking radiation levels is proving difficult. Understanding these maps also presents a learning curve for many. Project Engineer Peter Imm from Constellation highlights two incidents where this transition was notably challenging.
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- **Second Challenge:**
Reactor Coolant Pump (RCP) issues are resurfacing, particularly with tasks involving turning van cap screws, reminiscent of problems from the 90s when RCP internals were replaced. This outage, one RCP is scheduled for removal, with another slated for the next. It's been around two decades since this kind of maintenance was last performed. Framatome has been contracted to handle the work, but the challenge lies in the unfamiliarity of the current workforce with these procedures. Moreover, with only two months left until the outage, the plan for these operations is not yet fully developed, posing a significant risk to both efficiency and safety.

**(Plant)
(Representative)
STP
Eric Hood
Randall Sickler**

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- **First challenge – Knowledge Gaps with Non-RP Personnel.** A significant roadblock we face involves the lack of radiation awareness among non-RP staff. An illustrative case occurred when an engineer proposed the use of stellite for a project, not recognizing the associated radiation risks. This example underscores a broader issue where engineers and other personnel might prioritize their project objectives over radiological
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**Group – PWR, 4 Loop
Challenges – What has gone wrong**

Facilitator: Felix Martinez



safety, highlighting the need for better education and communication across departments.

- Second Challenge – The planning for outages has is problematic. Even after the schedule is officially approved, there's a continuous addition or alteration of work, which directly impacts the reliability of the outage estimates. This ongoing change post-approval reflects a lack of discipline in sticking to the planned schedule, leading to inefficiencies, potential safety oversights, and increased stress on RP resources.

**(Plant)
(Representative)
Diablo Canyon
Felix Martinez**

- First challenge- Our primary challenge involves managing an overwhelming workload with the current personnel capacity. We're actively working on integrating new technologies into our daily operations to enhance efficiency. However, the adoption process is slow, and there's a significant learning curve for our staff, which strains our already limited resources.
 - Second challenge- The second hurdle we face is the incomplete understanding of the scope of work among team members, despite a general recognition of Radiation Protection (RP) responsibilities. There's an acknowledgment of RP's role, but the detailed aspects
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**Group – PWR, 4 Loop
Challenges – What has gone wrong**

Facilitator: Felix Martinez



of how RP integrates into the broader work scope are often misunderstood or underestimated, leading to inefficiencies and potential safety risks during project execution.

**(Plant)
(Representative)
Seabrook
Michael Smith**

- First challenge – Our first challenge involves integrating technicians from other facilities who bring their own unique experiences and practices, which don't always align with our station's specific requirements. Introducing personnel from different plants can also import attitudes or work cultures that potentially conflict with our established ways of doing business, leading to friction or inefficiencies in operations.
 - Second challenge – The second challenge we face is our tendency to be reactive rather than proactive, particularly in understanding the complexities involved in generating dose estimates. For instance, when work scopes within containment continue to evolve, we're often asked to provide dose estimates without the full context, making accurate predictions difficult. This reactive approach can lead to significant discrepancies
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Group – PWR, 4 Loop Facilitator: Felix Martinez
Challenges – What has gone wrong



between estimated and actual doses (CRDM replacement)

(Plant)
(Representative)
Vogtle 3&4
Joe Campanella

- First challenge- Our initial challenge stems from workers operating with a construction mindset, focusing on task completion rather than the efficiency typical of a production environment. This often leads to an overestimation of working hours, skewing project timelines and resource planning. There's a critical need to shift towards more realistic estimations that reflect the nuances of working in a nuclear setting.
 - Second challenge- We're grappling with the T-week process, where work packages come to Radiation Protection (RP) without thorough vetting. This forces us into a position where we must hastily develop micro ALARA plans, compromising our ability to ensure both safety and efficiency. The rush undermines the comprehensive approach needed for optimal radiation safety.
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Group – PWR, 4 Loop Facilitator: Felix Martinez
Challenges – What has gone wrong



Golden Nuggets:

- **Callaway-** Work load reduction. RP technician help avoid building a scaffold to perform work.
- **Vogtle 3&4-** Working with Westinghouse to identify all stellite components and arranging for specialized testing for elemental Cobalt.
- **Diablo Canyon-** Artificial Intelligence and new tech platform development.
- **Seabrook-** Use of a bid screen TV at the RCA access station. Took pictures of all the low dose waiting areas and displayed it on the TV.
- **STP -** Using the outage schedule to their advantage.

Group – PWR, 4 Loop Facilitator: Felix Martinez
Challenges – What has gone wrong



Peter Imm:

Successes:

- Best practices Matrix

Challenges

- 2401 review and reactions
- Foreign Nationals being used who don't understand the language.
- WANO method 10 and its implementation.

Golden Nuggets:

- Outage best practices matrix.
- Radworker DLR questionnaire

Breakout Sessions
B&W
Westinghouse 4-Loop Group B



Group - PWR, 4 Loop, B&W Facilitator: Ryan Brown
Successes – What has gone right



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| <p>(Plant)
(Representative)
Braidwood
Charity Stopka
Joe Coughlin</p> | <ul style="list-style-type: none">➤ First success – Dual outage year. 29 / 30.5 Rem. 31 / 34 Rem actual vs goal.➤ Second success – Sharepoint site – Immediate access to information. Scaffold / insulation tracker in excel spreadsheet. Shared ownership between ALARA personnel, scaffold techs |
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| <p>(Plant)
(Representative)
Davis Besse
Ryan Brown</p> | <ul style="list-style-type: none">➤ First success – Last refueling outage was lowest ever for DB. 32 Rem DLR. Semi permanent scaffolds, almost no rework or schedule sequence dose impacts➤ Second success – Performed hard shutdown leading into outage with no increase in dose rates on top of Rx head, anywhere else in plant |
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| <p>(Plant)
(Representative)
Wolf Creek
Mike Quinnett
Bob French</p> | <ul style="list-style-type: none">➤ First success – Tying dose to work orders. Still challenges with worker adherence, site buy in➤ Second success – Power BI further implementation and transparency |
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Group - PWR, 4 Loop, B&W Facilitator: Ryan Brown
Successes – What has gone right



(Plant)
(Representative)
Vogtle 1&2
Michael Beyer

- First success – U1 Refuel Outage – House RP technicians out in the field serving as leads. Better line of communication. Improved ownership.
- Second success – Dry cask storage campaign. No radiological events. High level of granularity during critiques. Breakdowns of dose by individual activity. 890 / 909 mrem actual vs estimate

(Plant)
(Representative)
Framatome
Heather Hatton

- First success – Bare metal inspection / CO2 blasting for boron undervessel at turkey point. 4 days of mockups with the entire team. High level of detail in the mockup, willing to spend the money up front. Job completed 4 Rem under estimate (5/9 Rem)
 - Second success – Good rad worker practices being observed in the field from increased rad worker training in Lynchburg on the front end. Worker noticed increased dose on their SRD, identified an increase in general area dose rates.
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Group – PWR, 4 Loop, B&W Facilitator: Ryan Brown
Challenges – What has gone wrong



(Plant)
(Representative)
Braidwood
Charity Stopka
Joe Coughlin

- First challenge – High Rad scaffold event. Scaffold modification / insulation removed, survey documentation didn't reflect the changes. NRC / ISI personnel briefed to inaccurate conditions.
- Second challenge – Ownership of dose advocate program. Communication as work moves in the schedule.

(Plant)
(Representative)
Davis Besse
Ryan Brown

- First challenge – Energy Harbor to Vistra transition. Going from SAP to Maximo. HIS-20 to Sentinel. DZ Atlantic to Allied. So on and so forth. Want to revise all procedures and make fleet procedures.
- Second challenge – RCP Impeller decon project starting this week. Alpha Level III, up to 13,000 dpm alpha

(Plant)
(Representative)
Wolf Creek
Mike Quinnett
Bob French

- First challenge- High rad events – Deliberate misconduct. Moving of HRA barriers by work groups. Letting themselves into HRA's. Not strong discipline in the aftermath for these events either.

Group – PWR, 4 Loop, B&W Facilitator: Ryan Brown
Challenges – What has gone wrong



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- Second challenge- Did not meet outage goal. Increased dose rates in the plant from poor crud burst cleanup. Lack of outage staffing has led to snowball effect of poor morale / retirements

(Plant)
(Representative)
Vogtle 1&2
Michael Beyer

- First challenge – No longer have online ALARA position (work order reviews, T-meetings.) Utilizing 1 contractor. T-meetings have gone back to RP supervisors.
- Second challenge – Tracking dose by work order, scanning / adherence during log in process.

(Plant)
(Representative)
Framatome
Heather Hatton

- First challenge- Discrepancies on dress requirements / respiratory requirements on certain sites. Not willing to listen to Framatome input during planning process. Hesitation to utilize “extreme’s” because of cost. Has resulted in several PCE’s, financial impact to Framatome.
 - Second challenge- Sites refusing Framatome dose estimates during planning process. Has resulted in dose overages where Framatome takes the hit. Poor
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Group – PWR, 4 Loop, B&W Facilitator: Ryan Brown
Challenges – What has gone wrong



dose recognition of FME / firewatch. Not utilizing cameras or being proactive about finding LDWA's

Golden Nuggets:

- **Braidwood-** Purchased small drone for \$2300. Implemented within days.
- **Davis Besse-** Mounted placards for EPRI / BRAC survey points

Group – PWR, 4 Loop, B&W Facilitator: Ryan Brown
Challenges – What has gone wrong



- **Vogtle 1&2-** Color dose markers for the top of the HI-TRAC
- **Wolf Creek-** Spot / Chief Robot utilized for Rx cavity survey
- **Framatome-** Wrote ALARA in giant letters on hard hat. Vastly increased engagement from workers. Many people raising concerns / making suggestions

Breakout Sessions
Westinghouse 2&3-Loop



Group – PWR 2&3 Loop, B&W Facilitator: Dave Martin
Successes – What has gone right



Farley
Steve Bloom

- First success – Valve data base. Spread sheet for all details of valves. RP related.
- Second success – 3D printing for shielding (in process)

Prairie Island
Dave Martin

- First success –
- Second success – ALARA Baffle bolt and clevis. ALARA worked with ALARA dose with Westinghouse

Surry
Jordan Bristow

- First success – Shielding table for work in CTMT. Magnetic xray. License extension worked with ALARA.
 - Second success –
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Group – PWR 2&3 Loop, B&W Facilitator: Dave Martin
Challenges – What has gone wrong



Farley
Steve Bloom

- First challenge- Segmented seal leak. Under
- Second challenge-

Prairie Island
Dave Martin

- First challenge-
- Second challenge-
Changes in PM and two new RP supervision.

Surry
Jordan Bristow

- First challenge- RP tech turnover. Cost dose and create challenges
 - Second challenge-
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Group – PWR 2&3 Loop, B&W Facilitator: Dave Martin
Challenges – What has gone wrong



Golden Nuggets:

- **Farley- Valve data base. Spreadsheet for all details of valves. RP related.**
- **Prairie Island- Outage cost saving/Rad Risk using SE-75**
- **Surry- History data base for planning**