



Member Documents





Contents

A.	RP ALARA Conference Message	3
B.	RPAC 2025 Summer Attendees	4
C.	RPAC 2025 Summer Vendors	5
D.	High Interest Topics by Station (Hyperlink).....	6
E.	Breakout Sessions (Hyperlink).....	6
F.	Meeting Critiques (Hyperlink)	6
G.	RP ALARA Conference Member Presentations	6
H.	RP ALARA Conference Vendor Presentations	6
I.	Technology Review.....	7



A. RP ALARA Conference Message

On behalf of the RP-ALARA Association, the board extends our thanks to each of you for attending the Summer 2025 conference in Myrtle Beach, South Carolina. Your participation, enthusiasm, and dedication to advancing radiation protection and the ALARA principle made this event a resounding success.

We were thrilled to see such a diverse group of professionals come together to share knowledge, discuss best practices, and explore innovative solutions for minimizing radiation exposure. Your engaging discussions, insightful presentations, and collaborative spirit reinforced the importance of our shared mission to ensure safety for workers, the public, and the environment.

We hope you found the conference valuable and left with new ideas, connections, and inspiration to continue implementing ALARA principles in your work. Your feedback is greatly appreciated, so please feel free to share your thoughts or suggestions for future events by contacting us at any time.

Thank you again for your commitment to radiation protection and for making this conference a success. We look forward to seeing you at our next event!



RP ALARA Association

Summer 2025
Conference



B. RPAC 2025 Summer Attendees

Plant	Plant Design	Utility	Area	Name	Email
Barakah	CE	ENEC	UAE	Ghalya Almehrzei	ghalya.almehrzei@enec.ae
				John Hertz	john-joseph.hertz@enec.ae
Braidwood	4LW	Constellation	IL	Joe Coughlin	joseph.coughlin@constellation.com
Bruce B	PHWR	Bruce	ON	Bryce Beattie	bryce.beattie@brucepower.com
Brunswick	BWR	Duke Energy	NC	Rendell Parker	rendell.parker@duke-energy.com
Byron	4LW	Constellation	IL	Curtis Roberts	curtis.roberts@constellation.com
				Victor Hughes	victor.hughes@constellation.com
				Kevin Crymes	kevin.crymes@constellation.com
Calvert Cliffs	CE	Constellation	MD	Norberto Rebolledo Mendez	norberto.rebolledomendez@constellation.com
Catawba	4LW	Duke	SC	Amanda Droppers	amanda.droppers@duke-energy.com
Crane Clean Energy Center	B&W	Constellation	PA	Joseph Campanella	joseph.campanella@constellation.com
Davis Besse	B&W	Vistra	OH	Adrian Wilson	adrian.wilson@vistracorp.com
				Ryan Brown	ryan.brown1@vistracorp.com
DC Cook	4LW	AEP	MI	Marissa Brooks	mlbrooks@aep.com
Diablo Canyon	PWR	PG&E	CA	Felix Martinez	felix.martinez@pge.com
Framatome	N/A	Framatome	VA	David Howard	david.howard@framatome.com
			VA	Jeffery Back	Not available
			VA	Robin Rogers	robin.rogers@framatome.com
Hatch	BWR	Southern	GA	Cindy Scarpone	cscarpon@southernco.com
Lasalle	BWR	Constellation	IL	Amy Wujek	agumma@gmail.com
Limerick	BWR	Constellation	PA	Robin Miller	robin.miller@constellation.com
Oconee	B&W	Duke	SC	William Meldrum	william.meldrum@duke-energy.com
Palo Verde	CE	APS	AZ	James Sailer	james.sailer@aps.com
Prairie Island	2LW	Xcel	MN	Krystyn Kono	krystyn.kono@xcelenergy.com
Robinson	3LW	Duke-Progress	SC	William Burnham	william.burnham@duke-energy.com
STP	4LW	STP	TX	Eric Hood	eghood@stpegs.com
				Mike Moser	mcmoser@stpegs.com



RP ALARA Association

Summer 2025
Conference



C. RPAC 2025 Summer Vendors

Company	Contact Name	Contact Email	Contact Phone	Website
Advetage Solutions	Bob Thomson	bob.thomson@advetage.com	603-560-2339	Advetage.com
	Rich Palatine	rich.palatine@charthouseusa.com	678-938-6642	Advetage.com
Allied Power: Dominion Engineering	Jean Collin	jcollin@domeng.com	706-657-7324	Dominion Engineering
	Joe Agnew	jagnew@domeng.com	704-594-0900	Dominion Engineering
Allied Power: RSCS	Ellen Anderson	epanderson@radsafety.com	603-674-6720	RSCS
	Jimmy Tarzia	jptarzia@radsafety.com	603-674-6720	RSCS
American Ceramic Technology	Kim Stewart	kim@silflexshielding.com	858-732-2688	Silflex
	Lou Foraker	alaralou@silflexshielding.com	508-783-0232	Silflex
AVANTech, LLC	Bob Denne	bdenne@avantechllc.com	865-384-1318	AVANTech
	Larry Beets	lbeets@avantechllc.com	865-765-4708	AVANTech
Day & Zimmerman	David Wilkins	david.wilkins@dayzim.com	804-399-3260	Day & Zimmerman
	John Ellison	john.ellison@dayzim.com	865-368-0116	Day & Zimmerman
Eastern Technologies, Inc.	Benji McWaters	bmcwaters@orex.com	334-798-1687	OREX
	Kaci Harrell	kharrell@orex.com	334-798-1687	OREX
Flyability	Bob Overton	bob.overton@flyability.com	720-784-7748	Flyability
Framatome	Billy Arrington	billy.arrington@framatome.com	704-230-7145	Framatome
	Greg Cambeis	greg.cambeis@framatome.com	732-233-9431	Framatome
	Hannah Arrington	hannah.arrington@framatome.com	704-658-5860	Framatome
FRHAM Safety Products	Bobby Harper	bharper@frhamsafety.com	803-517-8505	frhamsafety.com
	Robbie Millen	rmillen@frhamsafety.com	704-458-3590	frhamsafety.com
Gamma Reality	Erika Suzuki	esuzuki@gammareality.com	510-542-9025	Gamma Reality
Gonzales Mechanical Solutions	Mathias Konne	mkonne@gonzales-usa.com	864-316-7935	Gonzales Mechanical
	Thomas Braun	tbraun@gonzales-usa.com	+33 0614183381	Gonzales Mechanical
H3D	Dave Nestle	dnest1e@h3dgamma.com	734-661-6416	H3D Gamma
Innovative Industrial Solutions	Stan Robinson	stan.robinson@i-i-s.net	479-857-6200	IIS
Master-Lee Decon Services	Rick McCormick	mccormick-r@masterlee.com	609-923-4772	Master Lee
	Steve Senitta	senitta-sm@masterlee.com	724-518-0437	Master Lee
Maxeta Technologies	James Visker	jvisker@maxetatech.com	610-334-9371	RadSurv
	Ritu Harrison	rharrison@maxetatech.com	609-802-1923	RadSurv
Mirion	Jeffery Dupont	jdupont@mirion.com	470-795-9090	Mirion
	Robert (Kip) Kelley	rkelly@mirion.com	470-795-9090	Mirion
NPO	Christy Branham	cbranham@npo.us.com	630-963-0320	NPO



RP ALARA Association

Summer 2025
Conference



Company	Contact Name	Contact Email	Contact Phone	Website
Ortec-Ametek	Terry Wilburn	terry.wilburn@ametek.com	865-483-2144	ORTEC
PureFlo by Gentex Corporation	Adam Hoffman	ahoffman@frhamsafety.com	803-230-3418	PureFlo
	Ronnie Dunne	rdunne@gentexcorp.com	980-322-1030	PureFlo
RADeCO	Keith Lovendale	klovendale@radecoinc.com	860-884-1220	RADECO
Thermo Fisher Scientific	Cary Webber	cary.webber@thermofisher.com	440-391-6219	ThermoFisher
UniTech Services Group	Denise Arlen	darlen@unitechus.com	413-427-6332	UNITECH
	JoAnn Dauberger	jdauberger@unitechus.com	901-848-2095	UNITECH
V3 Integrators	Dave Cruise	dcruise@v3is.com	804-337-9331	V3 Integrators
	Jayeesh Bakshi	jbakshi@v3is.com	434-962-5331	V3 Integrators
Westinghouse Electric Company	Fred Campbell	fred.campbell@westinghouse.com	864-622-2137	Westinghouse
	Tom Kennedy	thomas.kennedy@westinghouse.com	585-281-8136	Westinghouse

D. High Interest Topics by Station (Hyperlink)

E. Breakout Sessions (Hyperlink)

Contact the RP ALARA Board chairman for access to conference breakout sessions.

F. Meeting Critiques (Hyperlink)

G. RP ALARA Conference Member Presentations

H. RP ALARA Conference Vendor Presentations



RP ALARA Association

 Summer 2025
Conference

I. Technology Review

Company	Technology	Applicability	Website
Advetage Solutions	<ul style="list-style-type: none">• Consulting• LAMP• Nuclear Camera Systems• Dosimetry• QDS Decon Solutions• RP Instrumentation & Monitoring• Personal Radiation Detectors	<ul style="list-style-type: none">• RP Program management• RP Technology• Decon• RP Operations	Advetage.com
Allied Power: Dominion Engineering	<ul style="list-style-type: none">• Ultrasonic Cleaning & Decontamination• AMFM Regenerable Filtration• RP & ALARA Solutions: Decon Solutions• Automated Radiation Mapping System• Chemical Cleaning & Waste Treatment	<ul style="list-style-type: none">• Decon• RP Technology• Decon• RP Operations	Dominion Engineering
Allied Power: RSCS	<ul style="list-style-type: none">• Radiological Effluents and Environmental monitoring• Large area surface contamination surveys• Waste Management• RP Instrumentation• Online Courses/Guided Courses	<ul style="list-style-type: none">• RP Training• Effluents/Environmental Monitoring• RP Management	RSCS
American Ceramic Technology	<ul style="list-style-type: none">• Normal, specialty, and custom shielding• Magnetic shielding	<ul style="list-style-type: none">• RP Operations• Decon• RP ALARA	Silflex
AVANTech, LLC	<ul style="list-style-type: none">• Liquid Radwaste Processing• Waste Handling, Packaging, and Stabilization• Tank Desludging• Floor Drain Cleaning• SFP cleanouts• Radwaste RO water processing• Specialty Casks & Shields	<ul style="list-style-type: none">• RP Radwaste• RP Decon	AVANTech
Day & Zimmerman	<ul style="list-style-type: none">• Supplemental Personnel• Rad Engineers• ALARA Specialists• Additional radiological services	<ul style="list-style-type: none">• RP Organization	Day & Zimmerman



RP ALARA Association

 **Summer 2025
Conference**

Company	Technology	Applicability	Website
Eastern Technologies, Inc.	<ul style="list-style-type: none"> Personnel Contamination Clothing 	<ul style="list-style-type: none"> RP Organization 	OREX
Flyability	<ul style="list-style-type: none"> Elios 3 Drone 	<ul style="list-style-type: none"> DCPP Organization ISI Work 	Flyability
Framatome	<ul style="list-style-type: none"> Advanced Additive Manufacturing (3D Printing) Radwaste filters Engineering Services 	<ul style="list-style-type: none"> DCPP Organization RP Radwaste 	Framatome
FRHAM Safety Products	<ul style="list-style-type: none"> Standard Shielding Decontamination Supplies Respiratory Equipment Generic Safety and RP Supplies 	<ul style="list-style-type: none"> RP Operations RP ALARA RP Decon 	frhamsafety.com
Gamma Reality	<ul style="list-style-type: none"> CZT gamma camera with live monitoring, video recording, calibrated & non-calibrated data analysis. Easy to use Enhanced radiation surveying 	<ul style="list-style-type: none"> RP ALARA RP Operations 	Gamma Reality
Gonzales Mechanical Solutions	<ul style="list-style-type: none"> PWR equipment Dismantling equipment Moving and handling systems Fuel unloading equipment 	<ul style="list-style-type: none"> DCPP Organization 	Gonzales Mechanical
H3D	<ul style="list-style-type: none"> Gamma Spec cameras & software 	<ul style="list-style-type: none"> RP Operations RP ALARA 	H3D Gamma
Innovative Industrial Solutions	<ul style="list-style-type: none"> Smart card briefing system Dose rate displays HI Rad Barriers Rapid Deployment Cart Underwater Filtration/Vacuum System Aurum System with Smart PED 	<ul style="list-style-type: none"> RP Operations RP Decon RP ALARA RP Technology 	IIS
Master-Lee Decon Services	<ul style="list-style-type: none"> QDS Decon Solution Instacote-ML Water Blasting Sponge Blasting Source term reduction 	<ul style="list-style-type: none"> RP Operations RP Decon RP ALARA 	Master Lee
Maxeta Technologies	<ul style="list-style-type: none"> RadSurv 	<ul style="list-style-type: none"> RP Operations/Management 	RadSurv



RP ALARA Association

 Summer 2025
Conference

Company	Technology	Applicability	Website
Mirion	<ul style="list-style-type: none"> • Dosimetry and Telemetry Systems • Environmental Monitors • Contamination & Clearance • Portable Radiation Measurement • Training & Simulation Devices 	<ul style="list-style-type: none"> • RP Operations • RP Technology 	Mirion
NPO	<ul style="list-style-type: none"> • Normal, specialty, and custom shielding • Magnetic shielding 	<ul style="list-style-type: none"> • RP Operations • Decon • RP ALARA 	NPO
Ortec-Ametek	<ul style="list-style-type: none"> • Radionuclide analysis instruments 	<ul style="list-style-type: none"> • RP Operations 	ORTEC
PureFlo by Gentex Corporation	<ul style="list-style-type: none"> • Respiratory Protection 	<ul style="list-style-type: none"> • RP Operations • Radwaste • Decon 	PureFlo
RADeCO	<ul style="list-style-type: none"> • Boston Dynamic Spot • RP Monitoring services adapted to Spot • Air Sampling Systems • CBR systems 	<ul style="list-style-type: none"> • DCPD Organization • RP Technology • RP Operations 	RADECO
Thermo Fisher Scientific	<ul style="list-style-type: none"> • Radiation instruments • Radiation monitoring systems 	<ul style="list-style-type: none"> • RP Technology • RP Operations 	ThermoFisher
UniTech Services Group	<ul style="list-style-type: none"> • Nuclear Protective Clothing • Waste Management • Tool and Metal Decon • Just-In-Time Inventory • Respiratory Equipment Services 	<ul style="list-style-type: none"> • RP Radwaste • Decon 	UNITECH
V3 Integrators	<ul style="list-style-type: none"> • Radiation Hardened Cameras • Rapid Deployment Monitoring Cart • Communication Shielding • Shielded Remote Monitoring • Remote Monitoring 	<ul style="list-style-type: none"> • RP Operations • RP Technology 	V3 Integrators
Westinghouse Electric Company	<ul style="list-style-type: none"> • RFO services • Monitoring services 	<ul style="list-style-type: none"> • DCPD Organization 	Westinghouse



High Interest Topics (HITs)





A. High Interest Topics by Station

1. Barakah

- a. When setting dose budget for the year, what are you targeting the budget towards? WANO top quartile or below best station yearly performance?
- b. How many contract manpower personnel do you have for SG and non-SG outages (RP Technicians and Decon)?
- c. How have you structured department level dose ownership so that Engineering, Maintenance, and Operations all feel directly accountable for ALARA performance rather than viewing it as “just an RP metric”?
- d. What objective criteria do you use to decide a plant or crew is ready for self-brief RWP? What pitfalls should be avoided during rollout?
- e. What process do you follow to set and adjust annual collective dose budgets and outage dose targets, particularly when emergent scope threatens to exceed plan?
- f. Have you seen measurable source term reduction through zinc injection or hydrogen water chemistry, and what metrics provided the benefit?
- g. What standing meeting cadence (daily/weekly/monthly) delivers the best traction on ALARA actions without overloading line management?
- h. What is the variance between ADR and TLD readings normally? When there is a big gap what is the action followed to investigate?

2. Braidwood:

- a. Have you ever had resin “locked” up in a transfer line? How did you resolve the issue?
- b. Are you allowed to use wireless devices in your Containment at power?

3. Brunswick:

- a. What techniques have you employed to overcome worker proficiency challenges causing additional exposure during RCA activities? Online & Outage?
- b. What is your strategy for balancing CRE & plant improvements? Do you limit dose expenditures per year based on quartile performance or maintain below INPO standards?

4. Clinton:

- a. Update for USA lower power outage dose info sheet. Please provide any changes to the attached list of PRW life-of-plant lowest outage dose. For BWRs, provide lowest dose outage year in high interest topic spaces below.
- b. Please provide your Unit’s 2024 refueling outage doses and duration.
- c. What is you ALARA Committee’s dollars per person-rem fixed valve, if any?

5. Davis-Besse

- a. RP Supervisor Overtime – Do your supervisors who supervise union employees make time and a half on OT?
- b. How much dose does RP pick up supporting steam generator inspections? Total dose in mrem and percentage of total project, if possible, please?

6. Framatome:

- a. Does any part of ALARA staff work remote? How many hours a week?
- b. Who uses EDEX and when?



7. Ocone:

- a. For multi-unit sites: How do you account for Dry Cask dose for CRE? Unit of origin, even split between units?
- b. Have you ever skipped doing crud bursts? Results? (We plan to try this for our fall outage due to low peaks).
- c. How often do you update RAM tags on containers, assuming no change in conditions?
- d. Do you do ultrasonic cleaning on reload assemblies?
- e. How and at what level do you control overheads in the RCA?

8. Palo Verde

- a. Who runs your respiratory budget? Do you have input from other departments on what you buy?

9. Robinson:

- a. How is dose tracked? Work order number tracking or RWP task number?
- b. How many tasks does your RWP typically have? RNP has about 20-30 tasks per RWP for dose tracking.

10. South Texas Project:

- a. What specific benefits have you received from performing laser scanning at your site?
- b. What is your target past cavity decon contamination level? How do you perform cavity decon? Do you have shareable guidance? How much time is allowed?
- c. What is your process for dealing with dose rate alarms? How do you set alarm setpoints for dose rate?



Barakah



HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: when setting dose budget for the year, what are targeting the budget towards? WANO top quartile or below best station yearly performance?
 Name: Ghalya Almehezi
 Contact Info: ghalya.almehezi@enec.ae

Contact (Name)	Plant	NSSS	Comments
	Palo Verde	CE	
	Point Beach	2LW	
K. Kono	Prairie Island	2LW	We look at average online dose + any known project dose
	Robinson	3LW	
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
	South Texas	4LW	we are pretty consistent year to year. we just do a review of upcoming yearly work for any adjustments
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miller	Limerick GE	blm	Try for the best
Amy Wujek	LaSalle		we look at the cycle plan and update based on work scope. If too high, we look at kicking work that can move.

Return completed form to the Committee Secretary prior to the end of the meeting so that it may be included in the meeting report.

HIGH INTEREST TOPIC AND QUESTIONNAIRE **RP-ALARA Association**

Topic:

Name:

Contact Info:

Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
	Barakah	CE	
	Beaver Valley	3LW	
Jne C.	Braidwood	4LW	Want to target top performance But have to determine scope of work to be performed.
Victor Hughes	Byron	4LW	Common / Project work scope Cycles yearly
	Callaway	4LW	
Norberto Rebolledo Mendez	Calvert Cliffs	CE	We request projects expected for the following year; if something big is expected we allocate the day.
	Catawba	4LW	
	Davis Bease	B&W	
MONICA BROOKS	DC Cook	4LW	We look at online and projects
FELIX MARTINEZ	Diablo Canyon	4LW	TARGET GOALS FOR WORK ACCOMPLISHMENT & TO QUANTILE PERFORMANCE (IF FEASIBLE)
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	Most accurate estimate. We don't allow metrics to override reality.
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: How many contract manpower do you have (for different with SG and without (RP technicians + Decon) scopes)?

Name: Ghalya Almehrzi

Contact Info: Ghalya Almehrzi@conec.org

Contact (Name)	Plant	NSSS	Comments
	Palo Verde	CE	
	Point Beach	2LW	
Kono	Prairie Island	2LW	34 senior 10-12 extra for S/G work (2S/G) 10 junior
	Robinson	3LW	
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
	South Texas	4LW	
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miller	Limerick GE	Blk	No SG Follow up for typical stopping
Amy Wyjek	LaSalle		I will follow up

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HIGH INTEREST TOPIC AND QUESTIONNAIRE
RP-ALARA Association

Topic:			
Name:		Contact Info:	
Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
	Barakah	CE	
	Beaver Valley	3LW	
Joe C.	Braidwood	4LW	88 total RPTs For Non-S6 outage. Additional 20 individuals For S6's.
Curtis R	Byron	4LW	~40 SR + ~10-15 SR SIG ~1 JR + ~2-4 JR SIG (moving away from conferences)
	Callaway	4LW	
Nabito Rebolledo Mendez	Calvert Cliffs	CE	I will send out the information
	Catawba	4LW	
	Davis Besse	B&W	
John Catlett	DC Cook	4LW	~90 SR no extra for S6, reduce other crew during S6 work window. we always request much more
Felix MARTINEZ	Diablo Canyon	4LW	DEPENDENT ON SCOPE 1-30 EXTRA PEOPLE (RP & DECON)
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	We typically request 69 Sr RP, 16 Jr RP, 24 Decon, 2 ALARA, 2 dosimetry
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: How have you structured department level dose ownership so that Engineering, MNT, and ops all feel directly accountable for ALARA performance rather than viewing it as "just an RP metric"?

Name: Ghalya Almhrezi Contact Info: ghalya.almhrezi@enec.ae

Contact (Name)	Plant	NSSS	Comments
	Palo Verde	CE	
	Point Beach	2LW	
K. Kono	Prairie Island	2LW	we struggle with this, right now they do not own their dose
	Robinson	3LW	
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
	South Texas	4LW	we are dealing with the same issue of ownership
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miller	Limerick GE	blw	Depts don't take any accountability
Amy Wyjek	LaSalle		Dept dose advocates. Senior leadership Team buy - Dept are expected to speak to their dose.

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association

Topic:

Name:

Contact Info:

Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
	Barakah	CE	
	Beaver Valley	3LW	
Joe C.	Braidwood	4LW	Same as Byron
Victor Hughes	Byron	4LW	DEPT. HAVING DOSE ADVOCATE SPEAK TO DURING SAC.
	Callaway	4LW	
Neiberto Rebolledo Mendez	Calvert Cliffs	CE	Dose Advocate meeting, in the process to implement ALARA battles
	Catawba	4LW	
	Davis Besse	B&W	
MANSSA BROOKS	DC Cook	4LW	DISCUSSED AT SLT morning meeting. we do struggle during the outage with diff departments.
Felix MARTINEZ	Diablo Canyon	4LW	WORK GROUPS ARE EXPECTED TO SPEAK ABOUT THEIR EXPOSURE
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	most groups have a Dose Advocate. ENG is excluded due to low dose.
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE **RP-ALARA Association**



Topic: What objective criteria do you use to decide a plant or crew is ready for self-brief RWP's, and what pitfalls should be avoided during rollout?
Name: Ghalya Alhelwzi
Contact Info: Ghalya.Alhelwzi@enel.com

Contact (Name)	Plant	NSSS	Comments
	Palo Verde	CE	
	Point Beach	2LW	
K. Kono	Prairie Island	2LW	we have removed self-briefing
	Robinson	3LW	
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
	South Texas	4LW	Email us
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robt mika	Limerick -GE	bar	same as Byron + Grandwood
Amy Wijek	LaSalle		no self briefs allowed.

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HIGH INTEREST TOPIC AND QUESTIONNAIRE
RP-ALARA Association

Topic:			
Name:		Contact Info:	
Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
	Barakah	CE	
	Beaver Valley	3LW	
Joc C.	Braidwood	4LW	Same as Byron. Areas approved for self brief color coded green on maps.
Victor Hughes	Byron	4LW	No self briefing for (HRA, ABOVE 7, BREACHES, ^{welding} grinding)
	Callaway	4LW	
Nikolito Rebelle Mendez	Calvert Cliffs	CE	Currently no self briefing is allowed, Red workers must contact RP prior RCA entries
	Catawba	4LW	
	Davis Besse	B&W	
MANSSA BROOKS	DC Cook	4LW	no self briefing
Felix MARTINEZ	Diablo Canyon	4LW	SELF BRIEFING FOR LOW DOSE ONLY THEY MUST KNOW ALL REQ'D INFO & NO DEVIATE
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	Email me later
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: what process do you follow to set and adjust annual collective dose budgets and outage dose targets, Particulars when emergent scope threatens to exceed Plan?

Name: Chalya Almelhrzi

Contact Info: Chalya Almelhrzi@nec.ac.ae

Contact (Name)	Plant	NSSS	Comments
	Palo Verde	CE	
	Point Beach	2LW	
K. Kono	Prairie Island	2LW	email me
	Robinson	3LW	
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
	South Texas	4LW	Email us
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miller	Limerick GE	BWR	Email Me
Amy Wojek	LaSalle		Email me

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HIGH INTEREST TOPIC AND QUESTIONNAIRE
RP-ALARA Association

Topic:

Name:

Contact Info:

Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
	Barakah	CE	
	Beaver Valley	3LW	
Joe Coughlin	Braidwood	4LW	All thru SAC mtgs
Victor Hughes	Byron	4LW	Station/Corporate ALARA Approved.
	Callaway	4LW	
Noberto Noberto Nader	Calvert Cliffs	CE	SAC meetings
	Catawba	4LW	
	Davis Besse	B&W	
MANSSA BROOKS	DC Cook	4LW	Email me: mlbrooks@aep.com
Felix MARTINEZ	Diablo Canyon	4LW	I will follow up in a longer email
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	Email me later
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: Have you seen measurable source term reduction through zinc injection or hydrogen water chemistry, and what metrics proved the benefit? Contact Info: Ghalma Alnehrzi Ghalma.Alnehrzi@ehc.ac.90

Contact (Name)	Plant	NSSS	Comments
	Palo Verde	CE	
	Point Beach	2LW	
	Prairie Island	2LW	
	Robinson	3LW	
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
	South Texas	4LW	we did zinc injection in 2009. H ₂ O ₂ dose reductions for about 10 years, we are now consistent.
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miller	Limerick GE	BWR	Same as LaSalle
Amy Wojcik	LaSalle		Zinc injection - Chemistry Validated.

HIGH INTEREST TOPIC AND QUESTIONNAIRE
RP-ALARA Association

Topic:			
Name:		Contact Info:	
Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
	Barakah	CE	
	Beaver Valley	3LW	
Joc C.	Braidwood	4LW	Yes zinc injection very beneficial
Victor Hughes	Byron	4LW	Zinc injection significant reduction in dose. ^{Chemistry} validated
	Callaway	4LW	
Naborio Robledo Mendez	Calvert Cliffs	CE	Will send you an email with the requested information.
	Catawba	4LW	
	Davis Besse	B&W	
Jack Collett	DC Cook	4LW	Largely driven by chemistry before my time. Effort was successful
Felix Martinez	Diablo Canyon	4LW	DRIVEN BY CHEMISTRY, PERFORMANCE MEASURED BY ACS ACTIVITY & REMOTE RAD MONITORING. EFFECTIVE
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	Zinc in conjunction with resins, filters, and fuel cleaning, impossible to measure each.
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: what standing meeting cadence (daily/weekly/monthly) delivers the best traction on ALARA actions without overloading line management?

Name: Ghalya Almelrezi

Contact Info: Ghalya Almelrezi @enec-arap

Contact (Name)	Plant	NSSS	Comments
	Palo Verde	CE	
	Point Beach	2LW	
	Prairie Island	2LW	
	Robinson	3LW	
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
	South Texas	4LW	weekly critique Also moving to a monthly SAC meeting
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miller	Zimenc GE	BWR	monthly SAC - AS9 actions
Amy Wujek	LaSalle		Monthly SAC - Actions generated in AS9

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Bruce - Bruce - Mike/Source Team Comm. Meeting

HIGH INTEREST TOPIC AND QUESTIONNAIRE
RP-ALARA Association

Topic:			
Name:		Contact Info:	
Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
	Barakah	CE	
	Beaver Valley	3LW	
Joe Coughlin	Braidwood	4LW	monthly SAC mtgs
VICTOR HARRIS	Byron	4LW	Monthly SAC, Electronic Action Tracking AS9
	Callaway	4LW	
Norberto Robledo Mendez	Calvert Cliffs	CE	Returning to dose advocating meeting, where departments show their ownerships at Dose. SSAC and SAC meeting. At least every 2 weeks
	Catawba	4LW	
MONICA BROOKS	Davis Besse	B&W	
MONICA BROOKS	DC Cook	4LW	SAC meetings quarterly. Actions tracked
Felix MARTINEZ	Diablo Canyon	4LW	ELECTRONIC ACTIONS, SITUATIONAL SAC MEETINGS
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	We have SAC meeting quarterly
	Palisades	CE	

HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: What is the variance between ADR and TLD reading normally? When there is a big gap what is the action followed to investigate?
 Name: Ghalya Almeiri Contact Info: Ghalya.Almeiri@ener.ac.ae

Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
	Barakah	CE	
	Beaver Valley	3LW	
Joe Coughlin	Braidwood	4LW	Average ~15%
Carlos R	Byron	4LW	10-20% Buyback. Major difference between digital / TLD requires personal dose investigation.
	Callaway	4LW	
Neiberto Roberto Mendez	Calvert Cliffs	CE	Email me for the version. TLD requires personal dose investigation.
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	ryan.brown1@vistracop.com can email procedure -Typically we expect SRD to read 10% higher than TLD
MANSSA BROOKS	DC Cook	4LW	Email me: mlbrooks@aep.com
Felix Martinez	Diablo Canyon	4LW	VALUE IS APPROX 10%; IF EXCEEDED INVESTIGATE & DETERMINE ACTUAL VARIANCE & APPLY TO CORRECT OUR READINGS
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
Bill Meldrum	Oconee	B&W	10yr average is 89%. Will send our process for "Poor Correlators."
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association

Topic:			
Name:		Contact Info:	
Contact (Name)	Plant	NSSS	Comments
J. Sailer	Palo Verde	CE	2-4% MAX. Very tight cal.
Krystyn Kono	Point Beach	2LW	email me. Our Health physicist has had to deal with this, I will get you in contact with him
	Prairie Island	2LW	
	Robinson	3LW	
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	Normally within 5%. Large variance triggers a dose investigation.
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miller	Limerick GE	Blow	PEI will be written ~10-18% Bypass
Amy Wujek	LaSalle		≤ 10%. PEI will be documented to investigate Variance.

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Braidwood



HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: Have you ever had resin "locked" up in a transfer line.
How did you resolve the issue?

Name: Joe Coughlin

Contact Info: joseph.coughlin@constellation.com

Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
John Hertz	Barakah	CE	no
	Beaver Valley	3LW	
	Braidwood	4LW	
Victor Hughes	Byron	4LW	Ops lined up for back flush to resin vessel bypassing valves
	Callaway	4LW	
Norberto Rebolledo Mander	Calvert Cliffs	CE	Not that I am aware of Calvert. In Laguna Verde they used a chemical diluted in water to reduce the dose on the pipe
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	- Historically. Flush + mechanical agitation
Isaac Cuffert	DC Cook	4LW	Align with ops to flush until issue resolved
Felix Martinez	Diablo Canyon	4LW	Ops so AND MECH SUPPORT TO FLUSH LINE WITH APPROPRIATE MEDIUM (i.e. WATER/AIR)
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	Blew solids back thru backwash clean lines during backwash. Lots of flushes.
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association

Topic:			
Name:		Contact Info:	
Contact (Name)	Plant	NSSS	Comments
J. Siler	Palo Verde	CE	mechanical agitation + Flashes
	Point Beach	2LW	
Krystyn Kono	Prairie Island	2LW	Control area and flush, flush, flush
William Burnham	Robinson	3LW	Yes, pressurize and attempt line flushes mechanical agitation, post sluice flushes to prevent future rock ups
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	contact Kyle Kennedy or Marsha Johnson
Erzifood	South Texas	4LW	Extra flushing
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miler	Limerick GE	BWR	most of our lines are behind ZHAs - so not sure - Follow up
Randy Packer	BWP	BWR	Yes - Try Flush, shall pipe agitation replace

Amy Wijek LaSalle

Email me, I will find out. I have never seen it.

Return completed form to the Committee Secretary prior to the end of the meeting so that it may be included in the meeting report.

HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: *Are you allowed to use wireless devices in your CNMT At power?*

Name: *Joe Coughlin* Contact Info: *JOSEPH.COUGHLIN@constellation.com*

Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
<i>Chalson Anelizi</i>	Barakah	CE	<i>NO I think, email me for confirmation!</i>
	Beaver Valley	3LW	
	Braidwood	4LW	
<i>Victor Hughes</i>	Byron	4LW	<i>NO, PROCEDURAL driven</i>
	Callaway	4LW	
<i>Noberto Rebolledo Mendez</i>	Calvert Cliffs	CE	<i>I am not sure, email me for confirmation</i>
	Catawba	4LW	
<i>Ryan Brown</i>	Davis Besse	B&W	<i>I think, but I need to send emails. we have not done it yet, to my knowledge</i>
<i>Mike Cottle</i>	DC Cook	4LW	<i>yes as long as it falls within approved signal band</i>
<i>Gene Morrison</i>	Diablo Canyon	4LW	<i>No.</i>
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
<i>B. M. Weldon</i>	Oconee	B&W	<i>Yes Email and I'll send Procedure with standoff distances.</i>
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association

Topic:			
Name:		Contact Info:	
Contact (Name)	Plant	NSSS	Comments
J. Sailer	Palo Verde	CE	Yes, after wifi installed each outage
	Point Beach	2LW	
	Prairie Island	2LW	Yes
William Burnham	Robinson	3LW	RNP does not currently have permanent wifi in conf. wireless use in containment at power is minimal
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
Erz Hood	South Texas	4LW	Yes
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miller	Limerick GE	BWR	N/A
Amy Wojcik	LaSalle		I'm not sure, email me for confirmation.

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Brunswick



HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: what is your strategy for balancing CRE & plant improvements? Do you limit dose expenditures per year based on quartile performance or maintain below TPO standard

Name: Russell Parker

Contact Info: Russell.Parker@DukeEnergy.com

Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
John Hertz	Barakah	CE	Feedback provided to Site Leadership, they use this as input for decision making
	Beaver Valley	3LW	
Joe Coughlin	Braidwood	4LW	Low source term, would be driven thru SAC
Victor Hughes	Byron	4LW	YEAR BASED
	Callaway	4LW	
Norberto Rebolledo Mendez	Calvert Cliffs	CE	Year Based
	Catawba	4LW	
Myron Brown	Davis Besse	B&W	- Have not challenged 40 Rem CRE recently so it is not really talked about for us
	DC Cook	4LW	
Felix Martinez	Diablo Canyon	4LW	LIMIT DOSE EXPENDITURES VIA APPROVED ESTIMATES BASED ON HISTORICAL ANNUAL PERFORMANCE & PLANNED WORK
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
Bill Meldrum	Oconee	B&W	SAC is focused on maintaining 1st Q for all units. CRE is a focus but not limiting factor
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE
RP-ALARA Association

Topic:

Name:

Contact Info:

Contact (Name)	Plant	NSSS	Comments
	Palo Verde	CE	
	Point Beach	2LW	
Krystyn Kono	Prairie Island	2LW	We do not limit dose, we adjust. Do not challenge 40rem so hasn't been issue
William Burnham	Robinson	3LW	Robinson typically leans towards the plant improvement at the expense of CRE. RNP online dose typically 3rem
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
Enz Hood	South Texas	4LW	Usually move towards improvement. ALARA/CRE matters, but try to support.
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Mills	Limerick GE	BWR	Year-KAC based - will improve plant, dose not a limiting factor - yet.
Amy Wujek	LaSalle		• We move towards improving the plant. ALARA/CRE is challenged but not a limiting factor.

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: What techniques have you employed to overcome worker proficiency challenges causing additional exposure during RCA activities? online + Outage

Name: *Rendell Parker*

Contact Info: *Rendell.Parker@Duke-Energy.com*

Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
<i>Chalton Almekher</i>	Barakah	CE	3D models and RP shift support to the area.
	Beaver Valley	3LW	
<i>Joe Coughlin</i>	Braidwood	4LW	Detail briefs, team new with experienced, more RATS support, observations
<i>Victor H. Curtis R.</i>	Byron	4LW	Increased Technician Job coverage. Extremely detailed briefs w/ probing questions. Suspend self-briefing when standards slip. Mock ups in low dose fields
	Callaway	4LW	
<i>Roberto Mendez</i>	Calvert Cliffs	CE	Mock ups. Work in RCA areas must have an experienced tech with a new. Suspend self-briefing must contact RP to explain work and RPT explains rad condition.
	Catawba	4LW	
	Davis Besse	B&W	
	DC Cook	4LW	mock ups: detailed job briefs, pointing less exp. w/ more exp.
<i>Felix Martinez</i>	Diablo Canyon	4LW	3D Models, Reverse Briefs, Mock-ups, Walkthroughs. OUTSIDE VENDOR? Full discussions & walkdowns
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	Proficiency discussed during morning meeting. mock-ups encouraged when indicated.
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association

Topic:			
Name:		Contact Info:	
Contact (Name)	Plant	NSSS	Comments
	Palo Verde	CE	
	Point Beach	2LW	
Krystyn Kono	Prairie Island	2LW	Briefing workers. For RP we have detailed Job descriptions in addition to Alara Plans
William Burnham	Robinson	3LW	3d models to show workers work area photos RCA entry questionnaire to determine knowledge
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	Dynamic Learning Activities. Human Performance Labs.
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Rob Miller	Lincoln	4LW	Detailed job briefs, increase dose estimates to account for knowledge gaps & training.
Amy Wojcik	LaSalle		Mock ups and detailed briefs. increased supervision oversight.

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Boyd B. Forre

DLA'S, PROFICIENCY HEAT MAPS.



Clinton



HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association

2015 Spring Meeting



Topic: Update for USA Lowest PWR Outage Dose Info. Sheet.
Please provide any changes to the attached List of PWR Life-of-plant Lowest Outage Dose. For BWRs, provide lowest dose & outage year in High Interest topic. Below
Name: David Miller, NRC ISOE, D.Miller@illinois.edu Contact Info: Frank Owen - Clinton

Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
	Beaver Valley	3LW	
Joc Coughlin	Braidwood	4LW	V1 No change. V2 A2R21 best 25.243 Rem APRIL 2020
Vicke Hughes	Byron	4LW	I'll provide info once back at plant in email
	Callaway	4LW	
Roberto Rebellat Mondes	Calvert Cliffs	CE	I will reach out on an email with the last outage dose
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	1R24 - 2024 - 32.3 Rem DLR 35.6 RSRD
	DC Cook	4LW	email me: mlbrooks@aep.com
Felix MARTINEZ	Diablo Canyon	4LW	2023: 1R24 - 18.3R 2022 2R22 - 11.0R
	Farley	3LW	
	Ft. Calhoun	CE	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	Kewaunee	2LW	
	McGuire	4LW	
	Millstone	4LW, CE	
	North Anna	3LW	
Bill Meldrum	Oconee	B&W	Email me later
	Palisades	CE	
	Palo Verde	CE	

Return completed form to the Committee Secretary prior to the end of the meeting so that it may be included in the meeting report.

HIGH INTEREST TOPIC AND QUESTIONNAIRE **RP-ALARA Association**

Topic: *Update for lowest PWR Outage Date for Interim Unit.*

Name: *D.Miller@Ill.Wis.edu*

Contact Info: *Frank Owens, Clinton*

Contact (Name)	Plant	NSSS	Comments
	Point Beach	2LW	
<i>Kwstyn Kono</i>	Prairie Island	2LW	<i>email me</i>
	Robinson	3LW	
	Salem	4LW	
	San Onofre	CE	
	Seabrook	4LW	
	Sequoyah	4LW	
	South Texas	4LW	
	St. Lucie	CE	
	Surry	3LW	
	TMI	B&W	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
	BWXT		

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OECD Nuclear Energy Agency
International Atomic Energy Agency



INFORMATION SYSTEM ON OCCUPATIONAL EXPOSURE

North American Technical Center

General Distribution

July 15, 2020

ISOE INFORMATION SHEET

North American Technical Center
Information System on Occupational Exposure

US PWR Lowest Refueling Outage Dose Over Unit Operating History: NATC Benchmarking IFS Series on Lowest PWR Refueling Outage Dose for Station ALARA Committees Use

NATC ISOE Information Sheet No. 2020-12

NATC ISOE Information Sheet (IFS) No. 2020-12 : The North American Technical Center has maintained the US PWR lowest refueling outage dose table since 1999 to assist Station ALARA Committees in determining future refueling outage dose. The US PWR Lowest Refueling Outage Dose Table 1 provides a record of the lowest reported refueling outage reported by PWR ALARA staff and RPMs. Table 1 provides the lowest dose for each US operating unit, the outage year, cycle number, NSSS supplier, ED/TLD, commencement of commercial operation year and Megawatt electric unit rating. The doses are reports as electronic dosimetry (ED) or final legal dose of record (TLD or OSL) values.

The Tables 1 is updated annually in July.

Table 1 : PWR Refueling Outages - Lowest Dose by Unit

<u>last update: July 2020</u>								
<u>Ran</u> <u>k</u>	<u>Plant</u>	<u>Outage</u> <u>Dose</u>	<u>Year</u>	<u>Cycl</u> <u>e</u>	<u>NSS</u> <u>S</u>	<u>ED /</u> <u>TLD</u>	<u>CO</u> <u>Year</u>	<u>MW</u>

Prepared by Jim Bungard, Palo Verde & Arnaud Weickert, NATC Analyst Intern
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<u>1</u>	<u>Palo Verde 3</u>	<u>13.6</u>	<u>2019</u>	<u>21</u>	<u>CE</u>	<u>ED</u>	<u>1988</u>	<u>1405</u>	
<u>2</u>	<u>Palo Verde 2</u>	<u>16</u>	<u>2020</u>	<u>22</u>	<u>CE</u>	<u>ED</u>	<u>1986</u>	<u>1406</u>	
<u>3</u>	<u>Braidwood 1</u>	<u>16.7</u>	<u>2015</u>	<u>18</u>	<u>W</u>	<u>TLD</u>	<u>1988</u>	<u>1194</u>	
<u>4</u>	<u>Ginna 1</u>	<u>19.6</u>	<u>2015</u>	<u>39</u>	<u>W</u>	<u>ED</u>	<u>1970</u>	<u>602</u>	
<u>5</u>	<u>Oconee 1</u>	<u>19.9</u>	<u>2016</u>	<u>29</u>	<u>BW</u>	<u>TLD</u>	<u>1973</u>	<u>864</u>	
<u>6</u>	<u>Farley 1</u>	<u>19.9</u>	<u>2012</u>	<u>24</u>	<u>W</u>	<u>ED</u>	<u>1977</u>	<u>891</u>	
<u>7</u>	<u>Palo Verde 1</u>	<u>20.2</u>	<u>2017</u>	<u>20</u>	<u>CE</u>	<u>ED</u>	<u>1986</u>	<u>1402</u>	
<u>8</u>	<u>Byron 1</u>	<u>20.2</u>	<u>2018</u>	<u>22</u>	<u>W</u>	<u>TLD</u>	<u>1985</u>	<u>1183</u>	
<u>9</u>	<u>Diablo Canyon 2</u>	<u>20.4</u>	<u>2019</u>	<u>21</u>	<u>W</u>	<u>ED</u>	<u>1986</u>	<u>1182</u>	
<u>10</u>	<u>Prairie Island 2</u>	<u>20.6</u>	<u>2019</u>	<u>31</u>	<u>W</u>	<u>TLD</u>	<u>1974</u>	<u>566</u>	
<u>11</u>	<u>Callaway 1</u>	<u>20.7</u>	<u>2017</u>	<u>23</u>	<u>W</u>	<u>ED</u>	<u>1984</u>	<u>1284</u>	
<u>12</u>	<u>Farley 2</u>	<u>21.4</u>	<u>2013</u>	<u>22</u>	<u>W</u>	<u>TLD</u>	<u>1981</u>	<u>871</u>	
<u>13</u>	<u>Catawba 1</u>	<u>22.7</u>	<u>2012</u>	<u>20</u>	<u>W</u>	<u>TLD</u>	<u>1985</u>	<u>1153</u>	
<u>14</u>	<u>Beaver Valley 1</u>	<u>22.8</u>	<u>2018</u>	<u>25</u>	<u>W</u>	<u>TLD</u>	<u>1976</u>	<u>904</u>	
<u>15</u>	<u>Cook 1</u>	<u>23</u>	<u>2016</u>	<u>27</u>	<u>W</u>	<u>ED</u>	<u>1975</u>	<u>1056</u>	
<u>16</u>	<u>Cook 2</u>	<u>23.1</u>	<u>2015</u>	<u>22</u>	<u>W</u>	<u>TLD</u>	<u>1978</u>	<u>1133</u>	
<u>17</u>	<u>South Texas 1</u>	<u>23.5</u>	<u>2014</u>	<u>18</u>	<u>W</u>	<u>ED</u>	<u>1988</u>	<u>1312</u>	
<u>18</u>	<u>Watts Bar 1</u>	<u>26</u>	<u>2014</u>	<u>12</u>	<u>W</u>	<u>TLD</u>	<u>1996</u>	<u>1202</u>	
<u>19</u>	<u>Seabrook 1</u>	<u>26.2</u>	<u>2017</u>	<u>18</u>	<u>W</u>	<u>TLD</u>	<u>1990</u>	<u>1298</u>	
<u>20</u>	<u>North Anna 1</u>	<u>26.3</u>	<u>2019</u>	<u>27</u>	<u>W</u>	<u>ED</u>	<u>1978</u>	<u>963</u>	
<u>21</u>	<u>North Anna 2</u>	<u>27</u>	<u>2016</u>	<u>24</u>	<u>W</u>	<u>TLD</u>	<u>1980</u>	<u>963</u>	
<u>22</u>	<u>Oconee 2</u>	<u>28.1</u>	<u>2019</u>	<u>29</u>	<u>BW</u>	<u>TLD</u>	<u>1974</u>	<u>866</u>	
<u>23</u>	<u>Point Beach 2</u>	<u>28.2</u>	<u>2006</u>	<u>28</u>	<u>W</u>	<u>TLD</u>	<u>1972</u>	<u>539</u>	
<u>24</u>	<u>Diablo Canyon 1</u>	<u>28.2</u>	<u>2019</u>	<u>21</u>	<u>W</u>	<u>TLD</u>	<u>1985</u>	<u>1186</u>	
<u>25</u>	<u>Surry 1</u>	<u>28.3</u>	<u>2016</u>	<u>27</u>	<u>W</u>	<u>ED</u>	<u>1972</u>	<u>840</u>	
<u>26</u>	<u>Point Beach 1</u>	<u>28.9</u>	<u>2016</u>	<u>36</u>	<u>W</u>	<u>TLD</u>	<u>1970</u>	<u>537</u>	
<u>27</u>	<u>Summer 1</u>	<u>29.3</u>	<u>2011</u>	<u>19</u>	<u>W</u>	<u>ED</u>	<u>1984</u>	<u>1012</u>	
<u>28</u>	<u>Salem 2</u>	<u>29.3</u>	<u>2012</u>	<u>19</u>	<u>W</u>	<u>ED</u>	<u>1981</u>	<u>1216</u>	
<u>29</u>	<u>Byron 2</u>	<u>29.6</u>	<u>2019</u>	<u>22</u>	<u>W</u>	<u>ED</u>	<u>1987</u>	<u>1153</u>	
<u>30</u>	<u>Millstone 3</u>	<u>29.6</u>	<u>2016</u>	<u>17</u>	<u>W</u>	<u>ED</u>	<u>1986</u>	<u>1229</u>	
<u>31</u>	<u>Oconee 3</u>	<u>30</u>	<u>2018</u>	<u>29</u>	<u>BW</u>	<u>TLD</u>	<u>1974</u>	<u>864</u>	

<u>32</u>	<u>Watts Bar 2</u>	<u>30.3</u>	<u>2017</u>	<u>1</u>	<u>W</u>	<u>TLD</u>	<u>2016</u>	<u>1202</u>	
<u>33</u>	<u>South Texas 2</u>	<u>30.5</u>	<u>2015</u>	<u>14</u>	<u>W</u>	<u>ED</u>	<u>1989</u>	<u>1312</u>	
<u>34</u>	<u>Harris 1</u>	<u>30.7</u>	<u>2018</u>	<u>21</u>	<u>W</u>	<u>TLD</u>	<u>1987</u>	<u>980</u>	
<u>35</u>	<u>Prairie Island 1</u>	<u>31.3</u>	<u>2018</u>	<u>31</u>	<u>W</u>	<u>TLD</u>	<u>1973</u>	<u>560</u>	
<u>36</u>	<u>Braidwood 2</u>	<u>31.4</u>	<u>2014</u>	<u>17</u>	<u>W</u>	<u>TLD</u>	<u>1988</u>	<u>1166</u>	
<u>37</u>	<u>Comanche Peak 2</u>	<u>33.5</u>	<u>2015</u>	<u>15</u>	<u>W</u>	<u>TLD</u>	<u>1993</u>	<u>1166</u>	
<u>38</u>	<u>Comanche Peak 1</u>	<u>34</u>	<u>2013</u>	<u>14</u>	<u>W</u>	<u>TLD</u>	<u>1989</u>	<u>1166</u>	
<u>39</u>	<u>Sequoyah 2</u>	<u>34.6</u>	<u>2017</u>	<u>21</u>	<u>W</u>	<u>TLD</u>	<u>1982</u>	<u>1190</u>	
<u>40</u>	<u>Three Mile Island 1</u>	<u>34.8</u>	<u>2010</u>	<u>18</u>	<u>BW</u>	<u>TLD</u>	<u>1974</u>	<u>890</u>	
<u>41</u>	<u>McGuire 2</u>	<u>36</u>	<u>2018</u>	<u>25</u>	<u>W</u>	<u>TLD</u>	<u>1984</u>	<u>1149</u>	
<u>42</u>	<u>Vogtle 1</u>	<u>36.2</u>	<u>2017</u>	<u>20</u>	<u>W</u>	<u>TLD</u>	<u>1987</u>	<u>1169</u>	
<u>43</u>	<u>Turkey Point 4</u>	<u>37.9</u>	<u>2014</u>	<u>27</u>	<u>W</u>	<u>TLD</u>	<u>1973</u>	<u>715</u>	
<u>44</u>	<u>ANO 2</u>	<u>38.6</u>	<u>2012</u>	<u>22</u>	<u>CE</u>	<u>TLD</u>	<u>1980</u>	<u>1012</u>	
<u>45</u>	<u>Indian Point 3</u>	<u>39.5</u>	<u>2019</u>	<u>19</u>	<u>W</u>	<u>TLD</u>	<u>1976</u>	<u>1079</u>	
<u>46</u>	<u>St Lucie 1</u>	<u>39.8</u>	<u>2011</u>	<u>24</u>	<u>CE</u>	<u>ED</u>	<u>1976</u>	<u>850</u>	
<u>47</u>	<u>Vogtle 2</u>	<u>40.2</u>	<u>2017</u>	<u>19</u>	<u>W</u>	<u>TLD</u>	<u>1989</u>	<u>1174</u>	
<u>48</u>	<u>Calvert Cliffs 2</u>	<u>40.5</u>	<u>2015</u>	<u>21</u>	<u>CE</u>	<u>ED</u>	<u>1977</u>	<u>912</u>	
<u>49</u>	<u>Catawba 2</u>	<u>42</u>	<u>2018</u>	<u>23</u>	<u>W</u>	<u>TLD</u>	<u>1986</u>	<u>1159</u>	
<u>50</u>	<u>Wolf Creek 1</u>	<u>42.6</u>	<u>2019</u>	<u>23</u>	<u>W</u>	<u>ED</u>	<u>1985</u>	<u>1226</u>	
<u>51</u>	<u>ANO 1</u>	<u>44.8</u>	<u>2013</u>	<u>24</u>	<u>BW</u>	<u>ED</u>	<u>1974</u>	<u>845</u>	
<u>52</u>	<u>Salem 1</u>	<u>46.8</u>	<u>2014</u>	<u>23</u>	<u>W</u>	<u>ED</u>	<u>1977</u>	<u>1228</u>	
<u>53</u>	<u>Davis-Besse 1</u>	<u>46.8</u>	<u>2018</u>	<u>20</u>	<u>BW</u>	<u>ED</u>	<u>1978</u>	<u>902</u>	
<u>54</u>	<u>Turkey Point 3</u>	<u>47.1</u>	<u>2018</u>	<u>30</u>	<u>W</u>	<u>ED</u>	<u>1972</u>	<u>715</u>	
<u>55</u>	<u>Millstone 2</u>	<u>49</u>	<u>2017</u>	<u>24</u>	<u>CE</u>	<u>ED</u>	<u>1975</u>	<u>883</u>	
<u>56</u>	<u>Sequoyah 1</u>	<u>49.6</u>	<u>2013</u>	<u>19</u>	<u>W</u>	<u>TLD</u>	<u>1981</u>	<u>1212</u>	
<u>57</u>	<u>Beaver Valley 2</u>	<u>49.7</u>	<u>2018</u>	<u>20</u>	<u>W</u>	<u>TLD</u>	<u>1987</u>	<u>897</u>	
<u>58</u>	<u>Surry 2</u>	<u>50</u>	<u>2017</u>	<u>27</u>	<u>W</u>	<u>ED</u>	<u>1973</u>	<u>840</u>	
<u>59</u>	<u>McGuire 1</u>	<u>50.2</u>	<u>2019</u>	<u>26</u>	<u>W</u>	<u>TLD</u>	<u>1981</u>	<u>1140</u>	
<u>60</u>	<u>Calvert Cliffs 1</u>	<u>50.7</u>	<u>2014</u>	<u>22</u>	<u>CE</u>	<u>TLD</u>	<u>1975</u>	<u>925</u>	
<u>61</u>	<u>Robinson 2</u>	<u>52.6</u>	<u>2015</u>	<u>29</u>	<u>W</u>	<u>TLD</u>	<u>1971</u>	<u>740</u>	
<u>62</u>	<u>Waterford 3</u>	<u>55.7</u>	<u>2017</u>	<u>21</u>	<u>CE</u>	<u>TLD</u>	<u>1985</u>	<u>1173</u>	

RP-ALARA Association

Name: DAVID MILLER, NATE ISOE, UNDFL Contact Info: Frank Owen, Clinton, Constellation

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HIGH INTEREST TOPIC AND QUESTIONNAIRE RP-ALARA Association

2025 Spring Meeting Page 2

Topic: Please provide your units 2024 Refueling Outage Dose & Duration

Name: David Miller, D Miller @ Illinois.edu
NATO ALARA Under Contact Info: Frank Owen, Clinton

Contact (Name)	Plant	NSSS	Comments
	Point Beach	2LW	
Kristyn Kono	Prairie Island	2LW	2R33 (holdover from 2023) 9.346 R - 61 d 1R34 50.850 R, 117 R and
William Burnham	Robinson	3LW	2R234 53.237 Rem DLR 31 Days
	Salem	4LW	
	San Onofre	CE	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	1R25 59.797 Rem 37 days 2R23 41.745 Rem 49 days
	St. Lucie	CE	
	Surry	3LW	
	TMI	B&W	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miller	LaSalle	BLP	Email me
Rendell Burke	BNPP	BLP	27 days 195 Rem
Chalva Awe	BNPP		email me for confirmation.
Amy Wujek	LaSalle		127.019 Rem LIR20 - 100 RLR Rem 20 Days

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HIGH INTEREST TOPIC AND QUESTIONNAIRE RP-ALARA Association

Topic: What is your ALARA Committee's Dollars for Person Rem. Saved Value, if Any?

Name: D Miller, DMiller@511.nois.edu

Contact Info: Frank Owens

Contact (Name)	Plant	NSSS	Comments
John Hertz	Berkshire	CE, B&W	not sure.
	Beaver Valley	3LW	
	Braidwood	4LW	
Victor Hughes	Byron	4LW	I'll email info once back at plant.
	Callaway	4LW	
Neiberto Rebolledo Meador	Calvert Cliffs	CE	I will have to get back to you on an email.
	Catawba	4LW	
	Davis Besse	B&W	
	DC Cook	4LW	We have not used one in a long time because the plant has been so low it hasn't been used.
Felix Martinez	Diablo Canyon	4LW	It's about \$50K/REM, but we haven't used this value in a long time.
	Farley	3LW	
	Ft. Calhoun	CE	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	Kewaunee	2LW	
	McGuire	4LW	
	Millstone	4LW, CE	
	North Anna	3LW	
Bill Meldrum	Oconee	B&W	Don't have one
	Palisades	CE	
	Palo Verde	CE	

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BRKE
BATTIE

I will share our white paper on this

HIGH INTEREST TOPIC AND QUESTIONNAIRE RP-ALARA Association

Topic: What is Your ALARA Committee's Value for Dollars Per Person Rem Saved?

Name: David M. Miller NATC - un. of Illinois Contact Info:

Contact (Name)	Plant	NSSS	Comments
	Point Beach	2LW	
Krystyn Kono	Prairie Island	2LW	\$25,000 / person - Rem
	Robinson	3LW	
	Salem	4LW	
	San Onofre	CE	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	\$30000 / Rem
	St. Lucie	CE	
	Surry	3LW	
	TMI	B&W	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
	BWXT		
Amy Wujek	LaSalle		email me
Robin Miller	Limerick BWR		Email me

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BRUCE BEATTIE
DCPP

I WILL SURVEY THIS DOCUMENT - EMAIL ME
ABOUT \$50K / REM.



Davis Besse



HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: RP Supervisor Overtime - Do your supervisors who supervise union employees make time and a half on OT?
 Name: Ryan Brown Contact Info: ryan.brown1@vistra.com

Contact (Name)	Plant	NSSS	Comments
J. Sailer	Palo Verde	CE	NOT UNION, but straight time O.T.
	Point Beach	2LW	
K. Kono	Prairie Island	2LW	Give 5 free hours then straight time OT
William Burnham	Robinson	3LW	RNP is non-union plant. Supervisors are salary and receive receive straight time rate after 45 hrs
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
Enzifood	South Texas	4LW	Straight time OT
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miller	Limerick GE	Blr	Straight time OT - Non union
Amy Wyjek	LaSalle		Straight time

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Becky Brant - Yes.

HIGH INTEREST TOPIC AND QUESTIONNAIRE
RP-ALARA Association

Topic:			
Name:		Contact Info:	
Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
John Hertz	Barakah	CE	no.
	Beaver Valley	3LW	
Joe Coughlin	Braidwood	4LW	ST OT
Curtis R	Byron	4LW	Straight Time OT
	Callaway	4LW	
Norberto Rebollo Mendez	Calvert Cliffs	CE	Calvert Cliffs is not union
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	currently yes
	DC Cook	4LW	give 5 hours free then straight time for OT
Felix Martinez	Diablo Canyon	4LW	They get OT. ONLINE: OT is straight time, RFO: OT is 1.5x
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	No union employees
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: How much dose does RP pick up supporting steam generator inspections?
Total dose in mrem and % of total project if possible please

Name: Ryan Brown

Contact Info: ryan.brown1@vistra.com

Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
Chadwick Altheimer	Barakah	CE	email me
	Beaver Valley	3LW	
Joe Coughlin	Braidwood	4LW	Last VA outage RP 1.784 Rem of 10.985 total dose
Victor Hughes	Byron	4LW	But I will Apologies I'm an online dose person. Email you w/ info
	Callaway	4LW	
Noberto Rehuilto Mendez	Calvert Cliffs	CE	email me
	Catawba	4LW	
	Davis Besse	B&W	
	DC Cook	4LW	ours was high this last time and not our goal. RP/delon primary dose = 5.556 R 39% of project dose goal. Reduction Secondary dose = 417 mrem 14%.
Felix Martinez	Diablo Canyon	4LW	4635-mR 01-2023 RP = 1009-mR
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	283 mR 1090
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE
RP-ALARA Association

Topic:

Name:

Contact Info:

Contact (Name)	Plant	NSSS	Comments
J. Sinker	Palo Verde	CE	Save As ERIC - Email
	Point Beach	2LW	
Krystyn Kono	Prairie Island	2LW	email me
	Robinson	3LW	
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
Eriz Hood	South Texas	4LW	email me
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
	GE		
Amy Wojek	LaSalle		Email angela.Bristol@constellation.com

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BRUCE BEATTIE

EMAIL ME FOR DETAILS



Framatome



HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: DOES ANY PART OF ALARA STAFF
 WORK REMOTE? How many hours A week?
 Name: Ryan Rogers Contact Info: 434 229 5686

Contact (Name)	Plant	NSSS	Comments
J. Sailer	Palo Verde	CE	Yes, 30-40 % on-line only
	Point Beach	2LW	
Krystyn Koro	Prairie Island	2LW	No
William Burnham	Robinson	3LW	RNP has 2 ALARA tech. Both are hourly and do not work remote
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	Limited availability on a case by case basis. Generally, No.
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miller	Limerick GE	BLW	Yes, Flexible
Randy Parker	BWP	BLW	BLW wants 2 days from house/remote Only does not

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HIGH INTEREST TOPIC AND QUESTIONNAIRE
RP-ALARA Association

Topic:

Name:

Contact Info:

Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
Chayla Alnehrzi	Barakah	CE	NO, It was requested but not approved
	Beaver Valley	3LW	
Joc Coughlin	Braidwood	4LW	Case by case basis - day here day there
Victor Hughes	Byron	4LW	Byron station is allowed upto 8hrs Remote
	Callaway	4LW	
Nabeela Rebellado Mendez	Calvert Cliffs	CE	Calvert does remote. I haven't had the chance but when I started up to 16 hours
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	- It is not officially approved. But it is utilized on occasion during bad weather, near holidays, etc.
MAURISSA BROOKS	DC Cook	4LW	NO
Felix Martinez	Diablo Canyon	4LW	REMOTE WORK ON CASE BY CASE BASIS AND BY MANAGEMENT PERMISSION
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	Both ALARA Planners are hybrid, 2 home & 2 Plant days (4/10 schedule)
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE
RP-ALARA Association



Topic: *Who uses EDEX & WHEN?*

Name: *Robin Rogers*

Contact Info: *(434) 229 5686*

Contact (Name)	Plant	NSSS	Comments
<i>J. Sailer</i>	Palo Verde	CE	<i>800 + Entries - P2A Heaters + S/Y's on 200 racks 3 Rem difference</i>
	Point Beach	2LW	
	Prairie Island	2LW	
	Robinson	3LW	
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
<i>Eric Hood</i>	South Texas	4LW	<i>N/A</i>
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
<i>Robin Miller</i>	Limerick GE	BWR	<i>SP Diving - or as needed based on the gradients</i>
<i>Perdell Parker</i>	<i>BWR</i>	<i>BWR</i>	<i>We do EDEX calculations 2 hours used during outage</i>

Amy Wujek LaSalle

Multiple outage RWPs require EDEX - Email me for more info.

Return completed form to the Committee Secretary prior to the end of the meeting so that it may be included in the meeting report.

HIGH INTEREST TOPIC AND QUESTIONNAIRE
RP-ALARA Association

Topic:			
Name:		Contact Info:	
Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
Hertz	Barakah	CE	uncommonly. relocation/multibadging.
	Beaver Valley	3LW	
Joe Coughlin	Braidwood	4LW	Under head jumps when working off floor.
Victoria H Curtis R.	Byron	4LW	Full sets on under RX Head Jumps. More dosimetry / RINGS during lower cavity & initial cavity decon jumps.
	Callaway	4LW	
Norman Dehollander Meender	Calvert Cliffs	CE	Mostly during outages. SG / Cavity decon
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	- Evaluated frequently but very rarely used
Mike Collett	DC Cook	4LW	We have a procedure to use but never use due to source term
Genix MARTINEZ	Diablo Canyon	4LW	WE USE IT WHEN EXPOSED TO MULTIPLE RAD GRADIENTS. TYPICALLY DURING LOWER CAVITY WORK.
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	Never
	Palisades	CE	

Return completed form to the Committee Secretary prior to the end of the meeting so that it may be included in the meeting report.



Ocone



HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: For multi-unit sites: how do you account for Dry Cask dose for CRE?
Unit of origin, even split between units?

Name: Bill Meldrum

Contact Info: William.Meldrum@duke-energy.com

Contact (Name)	Plant	SSSS	Comments
Hertz	Bartok AND	CE, B&W	no DCS yet
	Beaver Valley	3LW	
Joe Conghlin	Braidwood	4LW	Split
Victor Hughes	Byron	4LW	Dose Pre Built in for yearly divided
	Callaway	4LW	
Debbie Rebelles Manager	Calvert Cliffs	CE	Split
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	NIA
	DC Cook	4LW	
Felix Martinez	Diablo Canyon	4LW	SPLIT BETWEEN UNITS
	Farley	3LW	
	Ft. Calhoun	CE	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	Kewaunee	2LW	
	McGuire	4LW	
	Millstone	4LW, CE	
	North Anna	3LW	
	Oconee	B&W	Even split for U1&2 (common pool), all U3 assigned to that unit.
	Palisades	CE	
J. Sailer	Palo Verde	CE	Unit Based -

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HIGH INTEREST TOPIC AND QUESTIONNAIRE
RP-ALARA Association

Topic:			
Name:		Contact Info:	
Contact (Name)	Plant	NSSS	Comments
	Point Beach	2LW	
Krystyn Kono	Prairie Island	2LW	Split evenly between units
William Burnham	Robinson	3LW	Single unit site
	Salem	4LW	
	San Onofre	CE	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	Dose by Unit. Sometimes a different # of casks.
	St. Lucie	CE	
	Surry	3LW	
	TMI	B&W	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
	BWXT		
Amy Wojek	LaSalle		Split evenly
Robin Miller	Limerick	BWR	Follow up

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: Have you ever skipped doing CrudBurst? Results?
(We plan to try this for our Fall outage due to low peaks).

Name: Bill Meldrum Contact Info: William.Meldrum@duke-energy.com

Contact (Name)	Plant	NSSS	Comments
John Hertz	Barakah AND	CE, B&W	No. Crud Burst shorter based on RCS activity
	Beaver Valley	3LW	
Joe Coughlin	Braidwood	4LW	No - RCP run normally 6 HRS
Victor Hughes	Byron	4LW	Procedural Driven Company Proprietary (No)
	Callaway	4LW	
Norberto Rebolledo Mendez	Calvert Cliffs	CE	yo
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	Not in last 30 years
Jack C. Helt	DC Cook	4LW	no, we see good results in dose reduction with it.
Felix Martinez	Diablo Canyon	4LW	No. We also see reliable results each outage
	Farley	3LW	
	Ft. Calhoun	CE	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	Kewaunee	2LW	
	McGuire	4LW	
	Millstone	4LW, CE	
	North Anna	3LW	
	Oconee	B&W	Never before, planning to skip next outage
	Palisades	CE	
J. Sailer	Palo Verde	CE	No, but shorter + shorter duration

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association

Topic:			
Name:		Contact Info:	
Contact (Name)	Plant	NSSS	Comments
	Point Beach	2LW	
Krystyn Kono	Prairie Island	2LW	No
William Burnham	Robinson	3LW	No
	Salem	4LW	
	San Onofre	CE	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	No. Low peaks usually but don't skip due to potential.
	St. Lucie	CE	
	Surry	3LW	
	TMI	B&W	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
	BWXT		
Chalga Arch	BNPP		NO
Angie Bristol	LaSalle		Contact Angie @ Angela.Bristol@constellation.com
Robin Miller	Lincoln		NO

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: How often do you update RAM tags on containers, assuming no change in conditions?

Name: Bill Meldrum

Contact Info: William.Meldrum@duke-energy.com

Contact (Name)	Plant	NSSS	Comments
JOHN HERTZ	Barakah ANO	CE, B&W	not updated unless opened & contents changed
	Beaver Valley	3LW	
JOE COUGHLIN	Braidwood	4LW	SAME AS BYRON
Victor H. Cetus R.	Byron	4LW	Expectation is < 1 yr as identified during periodic WNK downs, OR during current refuel outage.
	Callaway	4LW	
Roberto Mendez	Calvert Cliffs	CE	As needed, when unreadable
	Catawba	4LW	
Byron Brown	Davis Besse	B&W	standard is to update whenever contents / conditions changes. Reality is about every 2 years
Jack Cofelt	DC Cook	4LW	Expectation is yearly, mostly it's an outage equipment as it enters use in RCA
Felix Martinez	Diablo Canyon	4LW	UPDATE NOT REQUIRED UNLESS CONDITION IS SHOWN TO CHANCE. TAG REPLACED IF UNREADABLE.
	Farley	3LW	
	Ft. Calhoun	CE	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	Kewaunee	2LW	
	McGuire	4LW	
	Millstone	4LW, CE	
	North Anna	3LW	
	Oconee	B&W	When unreadable. No procedural guidance, just INPO encouragement to do 2Y.
	Palisades	CE	
	Palo Verde	CE	As needed, to replace TAGS

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HIGH INTEREST TOPIC AND QUESTIONNAIRE
RP-ALARA Association

Topic:

Name:

Contact Info:

Contact (Name)	Plant	NSSS	Comments
	Point Beach	2LW	
Kwstyn Kono	Prairie Island	2LW	As need based on radiological changes or degradation of tag
William Burnham	Robinson	3LW	As needed based on weather conditions,
	Salem	4LW	
	San Onofre	CE	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	As need based on changes in rad conditions or tag degradation
	St. Lucie	CE	
	Surry	3LW	
	TMI	B&W	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miller	Limerick BWXT	BLW	As needed, RT for Knock boxes, post outage
Rendell Parker eddyke-1234567890	BWR	BWR	Managing Plant Improvements/projects to maintain CRs acceptable
Rendell Parker 0000000000000000	BWR	BWR	As needed
Amy Wojcik	Lasalle		As needed

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HIGH INTEREST TOPIC AND QUESTIONNAIRE **RP-ALARA Association**



Topic: Do you do ultrasonic cleaning on reload assemblies?
 If yes, how often?

Name: Bill Meldrum Contact Info: William.Meldrum@duke-energy.com

Contact (Name)	Plant	SSSS	Comments
John Hertz	Barakah AND	CE, B&W	No.
	Beaver Valley	3LW	
Joe Coughlin	Braidwood	4LW	No
Victor Hughes	Byron	4LW	Procedural Driven Company Proprietary
	Callaway	4LW	
Roberto Rebelleto Mander	Calvert Cliffs	CE	Procedural Driven Company Proprietary
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	Have not done fuel cleaning in at least 8-10 years
Mike Coflet	DC Cook	4LW	no
Felix Martinez	Diablo Canyon	4LW	I will have to follow up. Please e-mail. Not sure.
	Farley	3LW	
	Ft. Calhoun	CE	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	Kewaunee	2LW	
	McGuire	4LW	
	Millstone	4LW, CE	
	North Anna	3LW	
	Oconee	B&W	YES. Every outage.
	Palisades	CE	
	Palo Verde	CE	Every outage 2 nd Row fuel

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HIGH INTEREST TOPIC AND QUESTIONNAIRE
RP-ALARA Association

Topic:			
Name:		Contact Info:	
Contact (Name)	Plant	NSSS	Comments
	Point Beach	2LW	
Krystyn Kono	Prairie Island	2LW	No
William Burnham	Robinson	3LW	Not currently but we have had discussions, I would be interested in answers to this as well
	Salem	4LW	
	San Onofre	CE	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	Not recently - Case by case as needed.
	St. Lucie	CE	
	Surry	3LW	
	TMI	B&W	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
	BWXT		
Rendy Packer	BWR	BWR	Not every outage - have done partial
Angie Bristol	LaSalle		
Robin Miller	Limerick	BWR	No

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: How and at what level do you control overheads in RCA?

Name: Bill Meldrum

Contact Info: William.Meldrum@duke-energy.com

Contact (Name)	Plant	NSSS	Comments
JOHN HERTZ	Barekiah AND	CE, B&W	survey over prior to work over 6'
	Beaver Valley	3LW	
Curtis Roberts	Braidwood	4LW	Restrict access via signage (RPS Rqd), Trip tickets + AWP State > 7 feet Regs RP Survey / Presence
Victor Hughes	Byron	4LW	"Signage" ABOVE 7' REQUIRES A RP BRIEF / LADDER
	Callaway	4LW	
Noube to Rebelleto Mendez	Calvert Cliffs	CE	Survey above 7', contact RP above 7'
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	Signage near ladder location, "Contact RP prior to work above 7 feet"
Jack Cottle	DC Cook	4LW	Signs et ladders for "Contact RP prior to working and stickers on ladders above 7 feet"
Felix Martinez	Diablo Canyon	4LW	SURVEY OVERHEAD 7-FT. SIGNS POSTED FOR LADDERS, SCAFFOLDS, HIGHER PLATFORMS
	Farley	3LW	
	Ft. Calhoun	CE	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	Kewaunee	2LW	
	McGuire	4LW	
	Millstone	4LW, CE	
	North Anna	3LW	
	Oconee	B&W	Stickers on ladders/platforms "Contact RP prior to climbing above 7' "
	Palisades	CE	
	Palo Verde	CE	stickers on ladders + ladder storage locations

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HIGH INTEREST TOPIC AND QUESTIONNAIRE **RP-ALARA Association**

Topic:			
Name:		Contact Info:	
Contact (Name)	Plant	NSSS	Comments
	Point Beach	2LW	
Krystyn Kono	Prairie Island	2LW	8 feet
William Burnham	Robinson	3LW	Same as Oconee
	Salem	4LW	
	San Onofre	CE	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	7 foot or above requires RP Tech support to survey.
	St. Lucie	CE	
	Surry	3LW	
	TMI	B&W	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
	BWXT		
Renee Parker	BWR	BWR	7' posting scaffolds / OLC's / etc
Amy Wojcik	LaSalle	BWR	7' or above requires a survey.
Rita Miller	Limerick	BWR	7' + above requires RP survey, Contact RP

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Palo Verde



HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: Who Runs your Respiratory Budget +
Do you have input from other depts on what you Buy

Name: Jim Suter Contact Info:

Contact (Name)	Plant	NSSS	Comments
	Palo Verde	CE	
	Point Beach	2LW	
K. Kono	Prairie Island	2LW	RP owns Respiratory, so it comes out of RP budget, not real input from other groups
William Burnham	Robinson	3LW	RP purchases respirators for radiological use we use the same brand of respirator across the whole duke fleet
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	RP owns most. Recently pushed security to own their own program. Moving to get rid of non-RCA related.
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		RP purchased / work groups HAVE A VOICE IN WHATS USED.
Ron Miller	Limerick GE	3LW	RP owns - will have CRAFT buy supplies based on work
Randall Porter	BNP	3LW	RP purchases / RP has projects purchase equipment to support their scope

Amy Wujek Lasalle

RP - no other dept buy in.

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HIGH INTEREST TOPIC AND QUESTIONNAIRE
RP-ALARA Association

Topic:

Name:

Contact Info:

Contact (Name)	Plant	SSSS	Comments
	ANO	CE, B&W	
Chayla Alnehr	Barakah	CE	RP buys + owns
	Beaver Valley	3LW	
Joe C	Braidwood	4LW	same as BYRON
Vicki Curtis Byron	Byron	4LW	RP owns safety, & also respiratory. so it all relies through RP, unless special projects (S/G Outage)
	Callaway	4LW	
Norberto Rebollo Mender	Calvert Cliffs	CE	I will need to email you with the information. RP owns respiratory protection program. But for fire fighting OP owns it.
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	RP buys, owns, & runs all of it. - no official input from other departments
Mike Collett	DC Cook	4LW	RP does it all w/ input from other groups
	Diablo Canyon	4LW	
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	RP owns. Not aware of any other inputs.
	Palisades	CE	

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Robinson



HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: How is dose tracked? Work order # tracking or RWP Task #

Name: William Burnham

Contact Info: William.Burnham@Duke-Energy.com

Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
Chalya Almelhi	Barakah	CE	-Thigh RWP number
	Beaver Valley	3LW	
Joe Coughlin	Braidwood	4LW	SAME AS BYRON
Victor Hughes	Byron	4LW	Combination of Both PROCESSES mostly RWP TASK.
	Callaway	4LW	
Norberto Rebelles Meador	Calvert Cliffs	CE	Both, WO for non routine activities. RWP for routine activities
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	Both. Online much closer work order # tracking Outage = for many orders, monitor RWP's. But still have ability to look at WO #
Manissa Brooks	DC Cook	4LW	Both. online is mostly WO # outage is tracked by RWP
Felix Martinez	Diablo Canyon	4LW	SPECIFIC & GENERIC WORK ORDERS.
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	prefer WO #. RWP task rarely
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association

Topic:

Name:

Contact Info:

Contact (Name)	Plant	NSSS	Comments
J. Sailer	Palo Verde	CE	Both, through Sentinel
	Point Beach	2LW	
Krystyn Kono	Prairie Island	2LW	We use both, RWP's for bigger items CSP/TP/PM / (alteswork etc) By WO for daily dose
	Robinson	3LW	
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	Both. Goal is all thru sentinel to pull reports as needed.
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miller	Limerick	CE	Work order driven - look up WO # + get the dose received
Russell Parker	RWP	Both	Online WO / Outage RWP

Amy Wojcik LaSalle

By RWP #

Return completed form to the Committee Secretary prior to the end of the meeting so that it may be included in the meeting report.

HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: How many tasks does your RWP typically have? RWP has 20-30 tasks per RWP for dose tracking.

Name: William Burnham

Contact Info: William.Burnham@Duke-Energy.com

Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
John Hertz	Barakah	CE	our RWPs don't have tasks
	Beaver Valley	3LW	
Joe Coughlin	Braidwood	4LW	Usually 1-5 tasks
Victor H. Curtis R.	Byron	4LW	Usually 1-5. General weld down RWP has 12 (one per dept)
	Callaway	4LW	
No. Berth Reboledo Mendez	Calvert Cliffs	CE	Less than 5. Usually just 1-3. Each dept has its own RWP
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	Typically 2-4. Major scope (retail) can have 8-12. HIS-20 does not like > 12 tasks
Monissa Brooks	DC Cook	4LW	Same as STP usually 2-4 ~ 90% of RWPs or 3 tasks 1-RA 2-HRA 3-LHAA
Felix Martinez	Diablo Canyon	4LW	NORMALLY 1-4, MORE IF NECESSARY
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
Bill Meldrum	Oconee	B&W	Varies. Most have 4-5, currently consolidating RWPs, so some have 20 or more.
	Palisades	CE	

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HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association

Topic:

Name:

Contact Info:

Contact (Name)	Plant	NSSS	Comments
	Palo Verde	CE	20-30, but working on reduction
	Point Beach	2LW	
Krystyn Kono	Prairie Island	2LW	Varies generally between 2-5, some specialty have ~10
	Robinson	3LW	
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	Low Risk - RA/HRA/LHRA Med Risk - RA/HRA/LHRA Newton - RA/HRA/LHRA Others vary as needed.
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miller	Lincoln GE	BLR	Online outage 2-3
Rudolf Parker	BLR	BLR	Online: 2-6 Task average Outage: 6-10 Task average
Amy Wojcik	LaSalle		Online: 1-3 tasks Outage: some have up to 9 or 10

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South Texas Project



HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: What specific benefits have you received from performing laser scanning at your site?
 Name: Eric Hood Contact Info: eghood@stpegs.com

Contact (Name)	Plant	SSSS	Comments
	ANO	CE, B&W	
John Hertz	Barakah	CE	virtual walkdowns by work groups, virtual planning, faster work execution due to workers knowing location
	Beaver Valley	3LW	
Joe Coughlin	Braidwood	4LW	RCP pump deck + motor move obstacles
Vickie Hughes	Byron	4LW	Laser mapping on RX Head. so far. waiting for funding to purchase products
	Callaway	4LW	
Donato Rebolledo Mendez	Calvert Cliffs	CE	not sure, I will need to reach out to my peer back at Calvert
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	N/A
Jake Cottle	DC Cook	4LW	new under vessel custom shielding
Felix Martinez	Diablo Canyon	4LW	1-HR/ENTRY NON-CA, 2-HR/ENTRY INITIAL ENTRY FOLLOWING INITIAL REVIEW, REDUCED LTRA ENTRIES DURING PLANNING
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
Bill Meldrum	Oconee	B&W	Let me count the ways! Too many to list - cut RCP motor lift from 12 hrs to 2.5. Email me
	Palisades	CE	

Return completed form to the Committee Secretary prior to the end of the meeting so that it may be included in the meeting report.

HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association

Topic: What specific benefits have you received from performing laser scanning at your site?

Name: Eric Hood

Contact Info: eghood@stpegs.com

Contact (Name)	Plant	NSSS	Comments
J. Sauer	Palo Verde	CE	Providing accurate location to speed time on task
	Point Beach	2LW	
	Prairie Island	2LW	
William Burnham	Robinson	3LW	Dose reductions for pre-job planning, worker briefing improvements
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	N/A
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Robin Miller	Limerick GE	BWR	N/A
Rodell Parker	BWR	BWR	Helps with walkdowns of inaccessible areas

Amy Wojcik LaSalle email me

Return completed form to the Committee Secretary prior to the end of the meeting so that it may be included in the meeting report.

BRUCE BEATTIE - Coupled w/ DOSE MAPPING - EMAIL FOR MORE INFO

HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association



Topic: Cavity Decon: What is your target post cavity decon contamination level?
How do you perform cavity decon? Do you have shareable guidance?
How much time is allowed?

Name: Eric Hood Contact Info: eghood@stpegs.com

Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
Chad Almedida	Barakah	CE	Yes we did, we do 3 Phase cavity Decon usually
	Beaver Valley	3LW	
Joe Longlin	Braidwood	4LW	<50K dpm/100cm ² , pressure wash, 3-4 HRS
Victor Hughes	Byron	4LW	<50K dpm/100cm ² Procedure driven
	Callaway	4LW	
Nahuel Robledo Mendez	Calvert Cliffs	CE	<100 Kdpm/100cm ² Procedure driven
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	<50K target. 4-6 hours. Spray down walls & floors, squeegee to deep end. Use a peroxide solution to help
Mike Collett	DC Cook	4LW	<50K, ~ 8 hrs Upper Cavity, ~ 6 hrs Lower Cavity Procedure & Script driven. Not sure about sharing
Felix Martinez	Diablo Canyon	4LW	1K-10K
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	<50K. spray walls, decon solution & buffer. Squeegee to shallow End. Not sure sched.
	Palisades	CE	

Return completed form to the Committee Secretary prior to the end of the meeting so that it may be included in the meeting report.

HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association

Topic: Cavity Decon: What is your target post cavity decon contamination level?
How do you perform cavity decon? Do you have shareable guidance?
How much time is allowed?

Name: Eric Hood

Contact Info: eghood@stpegs.com

Contact (Name)	Plant	NSSS	Comments
J Smith	Palo Verde	CE	<100k, washers, doodlebug
	Point Beach	2LW	
Krystyn Kono	Prairie Island	2LW	Initial < ⁵⁰ 100k; final - upper cavity < ²⁵ 25K, lower cavity < 100k, by procedure. Use Quick Decon solution w/ automatic scrubbers & Demin H2O
William Burnham	Robinson	3LW	<100k dpm/100cm ² - manual scrubbing, mopping Typically allowed 4 hrs usually takes 6-8 hrs
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	<100k dpm/100cm ² (stretch < 25K). Pressure wash and mop. Minimum guidance. 2-4 hours.
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Rob Miller	Limerick	BWP	Email me
Reidell Parker	BWP	BWP	Target: <200k general used new mastercote solution scrubbing ordinary - 9hrs in scheduled

Amy Wojcik LaSalle

email me. we have a presentation

Return completed form to the Committee Secretary prior to the end of the meeting so that it may be included in the meeting report.

HIGH INTEREST TOPIC AND QUESTIONNAIRE **RP-ALARA Association**



Topic: What is your process for dealing with Dose Rate Alarms?
 How do you set alarm setpoints for Dose Rate?

Name: Eric Hood

Contact Info: eghood@stpegs.com

Contact (Name)	Plant	NSSS	Comments
	ANO	CE, B&W	
John Hertz	Barakah	CE	document eSams & Condition Report. INPO setpoint guidance
	Beaver Valley	3LW	
Joe Conklin	Braidwood	4LW	same as BYR
Victor Hughes	Byron	4LW	Procedural Driven (Survey Results / Past Dose Performance)
	Callaway	4LW	
Nabeiro Rebolledo Mendez	Calvert Cliffs	CE	Procedure Driven
	Catawba	4LW	
Ryan Brown	Davis Besse	B&W	-Can share procedure. Set alarms based on review of (for both substation) access records following each outage
Jake Collett	DC Cook	4LW	for procedure, set point changes capped @ 50% over expected dose rate
Felix Martinez	Diablo Canyon	4LW	Procedural: up to 1.5% of highest GA. ALSO ALIGNED WITH WANO S/P DEVELOPMENT
	Farley	3LW	
	Ginna	2LW	
	Harris	3LW	
	Indian Point	4LW	
	McGuire	4LW	
	North Anna	3LW	
	Oconee	B&W	Unanticipated - generate NCR + investigate. Practice is to brief almost every one to a rate alarm.
	Palisades	CE	

HIGH INTEREST TOPIC AND QUESTIONNAIRE

RP-ALARA Association

Topic: What is your process for dealing with Dose Rate Alarms?
How do you set alarm set points for Dose Rate?

Name: Eric Hood

Contact Info: eghood@stpegs.com

Contact (Name)	Plant	NSSS	Comments
Jim Smith	Palo Verde	CE	CR written for all un planned dose + rate Alarms. Dose + Dose Rate Setpoints 2 year history
	Point Beach	2LW	
Krystyn Kono	Prairie Island	2LW	Per procedure = 1.5 expected dose rate, also look at contact dose rates on SRD's for previous instances of task. for brief to dose rate alarm if needed. If expected alarm info
William Burnham	Robinson	3LW	Alarm set points are low enough to challenge worker but not lead to constant alarms. Alarms are 90% briefed and anticipated
	Salem	4LW	
	Seabrook	4LW	
	Sequoyah	4LW	
Eric Hood	South Texas	4LW	No specified process. Set points are low but reasonable.
	St Lucie	CE	
	Surry	3LW	
	Turkey Point	3LW	
	VC Summer	3LW	
	Vogtle	4LW	
	Waterford	CE	
	Watts Bar	4LW	
	Wolf Creek	4LW	
	Framatome		
Ron Miller	Limerick	Blot	Procedural - Dose rate setpoint to 1
Randy Parker	BWP	Blot	3- Alarms leave area unless alarm is during transversing to work area

Amy Wojcik LaSalle

Procedurally driven

Return completed form to the Committee Secretary prior to the end of the meeting so that it may be included in the meeting report.



Meeting Critiques





A. Strengths

1. Braidwood:
 - a. Nice job on the 3D presentation.
 - b. Plenty of room in the conference room.
 - c. Great breakout sessions.
 - d. Hospitality room was good.
 - e. Vendor nights were good.
2. Byron:
 - a. The information will be helpful to return and share with the station.
 - b. Attendee has all the time they needed with vendors.
 - c. Presentations should include more station innovations.
 - d. The mix of vendors is nice with plenty of options.
 - e. The conference flowed well.
3. Calvert Cliffs
 - a. It is great to share changes in the industry (WANO 10) and share experiences with implemented technology.
 - b. One of the best conferences that I have attended. I am open to keep this going.
4. Cook:
 - a. 3D printing presentation was great.
 - b. Breakout sessions and vendor presentations were great.
5. Davis Besse
 - a. Hotel and facilities were great.
6. Robinson:
 - a. Good material, highly informative and impressive. Learned many new things. Enjoyable conversation.
 - b. Enjoyed vendor participation.
 - c. Breakout sessions were enjoyable as the small group format promoted engagement.
 - d. Conference location and amenities were good.
7. South Texas Project:
 - a. Hospitality suite was a good way to interact.



B. Weaknesses

1. Braidwood
 - a. We need to ensure we hit break times per vendor schedule.
 - b. The conference room too warm.
2. Byron:
 - a. Please talk about current regulations NRC/INPO memos. How will future regulation look?
 - b. Plant status forms did not include Byron station.
 - c. Always have a backup in the event of presentation cancellations.
3. Calvert Cliffs:
 - a. It was difficult to see the projector from where I was sitting.
 - b. We do not want to wait until the conference to share our wins, on the website include a section so associates can share their breakout information.
4. Cook:
 - a. Provide presentations on new useful technologies and practices.
 - b. Upload presentations, when possible, to group website.
5. Oconee:
 - a. I love my BWR brothers and sisters, but we are a PWR. It might be good to break out with other PWRs.
 - b. Zoom in on slides for the older personnel in the back.
6. Robinson:
 - a. Robinson plant status report was not available.
7. South Texas Project:
 - a. We need a better setup for extension cords.
 - b. Formalize some processes. Success/Challenge/nugget sheet prior to meeting.
 - c. Clarify use of plant status reports.
 - d. Push HIT sheets harder, seemed slow.
 - e. Round table topics identified early.



C. Areas For Improvement

1. Barakah:
 - a. Consider adding one more attendee-presenter during the conference.
 - b. Consider lessons on integrating the virtual tour and dose information.
2. Braidwood:
 - a. Add a presentation on Calloway's recent outage challenges.
 - b. During report outs, board members should ask a question to drive participation.
 - c. Box lunch food was marginal.
3. Bruce Power:
 - a. It would be nice to have more CANDU/Self Protection Discussions. I will prompt for participation from OPG and NB Power.
 - b. Provide a presentation on RWP Management – I would like to know more about how you use Sentinel.
4. Byron:
 - a. Constellation was well-represented, but attendees were disappointed to not see someone for each site. Byron included an RP technician in the RP ALARA conference. Other plants should follow suit.
 - b. Encourage participation from Chemistry, Operations, or any other workgroup that would benefit from this conference.
 - c. Rotate conference location by region. Encourage participation from closer utilities.
 - d. Hand out flash drives prior to, or during, conference with vendor presentations, other presentations, or website. Follow along or take back to the site to share.
 - e. ALARA presentations: Getting a standardized system (computer-based programs)
5. Calvert Cliffs:
 - a. Evaluate the possibility of holding future conferences in various parts of the globe.
 - b. Evaluate the possibility of inviting power plants across the globe to the RP ALARA conference (i.e., South America).
6. Cook Nuclear:
 - a. Prior to coming to the meeting, we send in our Breakout comments. This would help get our station involved. Then go over it at the conference. It would help get the station involved.
 - b. Would like to see how other stations deal with assigning work order dose. Teach/learn on the screen and see exposure reports. Visual presentations are the best and it would help someone new in the role.
7. Davis Besse:
 - a. Provide presentation topics on neutron dose tracking, dosimetry, survey techniques, etc.
 - b. Provide a presentation on RWP "show and tell).
8. Limerick:
 - a. Address the following topics in the future: MCO-COCO-GNF Fuel topics.
9. Oconee:
 - a. Terrific opportunity to hear about other plant resolutions to problems we have not had yet. Maintaining contacts is crucial if we need to reach out about something.
10. Robinson:
 - a. Provide a presentation for 3D scanning and dose rate overlays to use for worker briefing and walkdowns.
 - b. Provide location of conference, pricing, and expenses associated with conference travel and lodging.
11. South Texas Project
 - a. Provide a presentation on 3D mapping of the site and improvements from it.



- b. RWP examples (multiple plants with “good” RWPs).



Optional	
Name	Curtis R.
Utility	Byron - Constellation

Board Review	
PM	
RSB	HZ
QC	



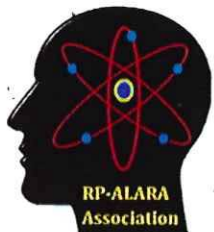
Summer 2025 *** Myrtle Beach, SC *** June 17-19, 2025

MEETING CRITIQUE

Please help us meet your meeting expectations by commenting on the following items:

Plant Status Reports (summer meeting only):	This will be helpful to return & share w home plants.
Technical Content:	Talk current regulations NRC / NPS memos, how future looks regulated wise. I.E. Executive Orders about NRC, etc
Vendor Participation:	Vendors had as much time as I wanted. Conference was a bit scattered as far as in/out/in with vendors, but this is likely an efficiency thing.
Meeting Format (Breakout Sessions, Presentations, etc):	I really liked the breakout sessions, allowed more personal conversations.
Facilities (Meeting Room, Hotel Facilities, Location, etc):	Hotel was excellent w/ plenty of amenities.
Topics you would like to see addressed in the future (include recommendations relative to presentation format like breakout session, technology presentation, survey, etc.):	Encourage participation from Chemistry / OPS/etc. Breakouts via utility or similar on seminars. How to obtain funding, communication w/ other groups, skill seminars, vendor training or program tutorials, etc.
Please provide suggestions which would help justify your company's continued participation in the RP-ALARA Association:	Constellation was well represented, but I was disappointed to not see someone from each site. I encourage sharing that Byron sent an RF Technician and hope that others emulate.
Suggested Future Conference Locations:	Rotate by region. Encourage participation from closer utilities.
Do you anticipate your plant being represented at the next meeting? If not, why?	Yes.
Other Comments:	Hand out flash drives prior to or during conference w/ vendor presentations, other presentation, or post on website. Follow along or take back to site to share.

Return completed form to the Committee Secretary prior to the end of the meeting.



Optional	
Name	<u>Manssa Brooks</u>
Utility	<u>Cook Nuclear</u>

Board Review	
pm	<u>2/1</u>
<u>2:30</u>	<u>4:2</u>
<u>7:00</u>	

Summer 2025 *** Myrtle Beach, SC *** June 17-19, 2025

MEETING CRITIQUE

Please help us meet your meeting expectations by commenting on the following items:

Plant Status Reports (summer meeting only): <u>10/10</u>
Technical Content: <u>10/10</u>
Vendor Participation: <u>10/10</u>
Meeting Format (Breakout Sessions, Presentations, etc): <u>10/10</u>
Facilities (Meeting Room, Hotel Facilities, Location, etc): <u>10/10</u>
Topics you would like to see addressed in the future (include recommendations relative to presentation format like breakout session, technology presentation, survey, etc.): <u>I suggest that prior to coming to the meeting we send in our pos/neg and golden nugget. This would help get our station involved. Then go over it at the conference. Then hearing from others might think of more from our plant</u>
Please provide suggestions which would help justify your company's continued participation in the RP-ALARA Association: <u>I think my benchmark, but the suggestions on using Actionway will def help. I loved having the vendors here and will use that info along w/ industry peers to support some actions!</u>
Suggested Future Conference Locations: <u>Keep it here at the Marriott myrtle beach 😊</u>
Do you anticipate your plant being represented at the next meeting? If not, why? <u>yes!</u>
Other Comments: <u>I would enjoy to see others process on assigning with dose teach n learn on the screen see there reports etc. I love visual presentations. This could be because I'm new in my role.</u>

Return completed form to the Committee Secretary prior to the end of the meeting.



	Optional
Name	Robin Miller
Utility	LG&S

Board Review	
am	😊
ASB	Hz
dl	

Summer 2025 *** Myrtle Beach, SC *** June 17-19, 2025

MEETING CRITIQUE

Please help us meet your meeting expectations by commenting on the following items:

Plant Status Reports (summer meeting only): Good info
Technical Content: Good
Vendor Participation: Good turnout
Meeting Format (Breakout Sessions, Presentations, etc): Good timing
Facilities (Meeting Room, Hotel Facilities, Location, etc): Very Nice
Topics you would like to see addressed in the future (include recommendations relative to presentation format like breakout session, technology presentation, survey, etc.): MCO-COCO - GNF Fuel
Please provide suggestions which would help justify your company's continued participation in the RP-ALARA Association: Gonna try to recruit more BLWPs
Suggested Future Conference Locations: San Diego, CA
Do you anticipate your plant being represented at the next meeting? If not, why? Yes
Other Comments: Looking forward to Winter 2026

Return completed form to the Committee Secretary prior to the end of the meeting.



Name	Optional HERTZ
Utility	

Board Review	
pm	Hz
ASB	Hz
4c	

Summer 2025 *** Myrtle Beach, SC *** June 17-19, 2025

MEETING CRITIQUE

Please help us meet your meeting expectations by commenting on the following items:

Plant Status Reports (summer meeting only):

Good.

Technical Content:

~~need more~~ 1 more presenter might be nice

Vendor Participation:

do vendors rapid fire on day 1

Meeting Format (Breakout Sessions, Presentations, etc):

good

Facilities (Meeting Room, Hotel Facilities, Location, etc):

too hot in main room

Topics you would like to see addressed in the future (include recommendations relative to presentation format like breakout session, technology presentation, survey, etc.):

how to ~~use~~ integrate virtual twin & dose info.

Please provide suggestions which would help justify your company's continued participation in the RP-ALARA Association:

benchmark report template

Suggested Future Conference Locations:

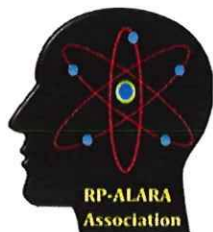
Washington DC

Do you anticipate your plant being represented at the next meeting? If not, why?

not sure. outage starts Feb 27

Other Comments:

Return completed form to the Committee Secretary prior to the end of the meeting.



	Optional
Name	Jocel
Utility	BRW

Board Review	
HZ	ASB
2	
mm	
9c	✓

Summer 2025 *** Myrtle Beach, SC *** June 17-19, 2025

MEETING CRITIQUE

Please help us meet your meeting expectations by commenting on the following items:

Plant Status Reports (summer meeting only):

I forgot about them and didn't look at until now

Technical Content:

Nice job on 3D Felix

Vendor Participation:

Good

Meeting Format (Breakout Sessions, Presentations, etc):

Good - Need to ensure we hit break times per vendor schedule

Facilities (Meeting Room, Hotel Facilities, Location, etc):

Room warm. Plenty room and good breakouts.

Topics you would like to see addressed in the future (include recommendations relative to presentation format like breakout session, technology presentation, survey, etc.):

Callaways recent outage challenges

Please provide suggestions which would help justify your company's continued participation in the RP-ALARA Association:

Have JOHN run many more meetings.
Nice job

Suggested Future Conference Locations:

Key West

Do you anticipate your plant being represented at the next meeting? If not, why?

Yes

Other Comments:

Liked Rm 932 and 2nd Nite
out of the vendor Area.

- During report outs board members need to ask a question to
- food marginal, box lunch? drive participation.

Return completed form to the Committee Secretary prior to the end of the meeting.



Optional
Name William Burnham
Utility Duke Energy (RNP)

Board Review	
Phm	Hz
ASB	
HC	

Summer 2025 *** Myrtle Beach, SC *** June 17-19, 2025

MEETING CRITIQUE

Please help us meet your meeting expectations by commenting on the following items:

Plant Status Reports (summer meeting only):	Good information. Did not see Robinson information. First time attending so not sure who would provide this information
Technical Content:	Good material, very informative. 1st time attending conference and very impressed and learned many new things. Good conversations
Vendor Participation:	Enjoyed vendor participation. Good presentations
Meeting Format (Breakout Sessions, Presentations, etc):	Good presentations Really enjoyed breakout sessions. Good discussions and small group format to promote engagement
Facilities (Meeting Room, Hotel Facilities, Location, etc):	Meeting room was adequate, hotel facilities were nice, location (Myrtle Beach) made attending conference much easier
Topics you would like to see addressed in the future (include recommendations relative to presentation format like breakout session, technology presentation, survey, etc.):	Presentation for 3d scanning and dose rate overlays to use for worker briefing and walkdowns
Please provide suggestions which would help justify your company's continued participation in the RP-ALARA Association:	Location of conference, pricing and expenses associated with conference travel & lodging
Suggested Future Conference Locations:	No input at this time
Do you anticipate your plant being represented at the next meeting? If not, why?	As long as I can continue to convince management to set aside funds for meetings.
Other Comments:	First time attending conference. Very informative topics. opened my eyes to the concerns and successes of other facilities. Gave me some great information to take back to my site for ALARA improvements

Return completed form to the Committee Secretary prior to the end of the meeting.



Optional	
Name	<u>Bill Meldrum</u>
Utility	<u>Duke-ONS</u>

Board Review	
PM	<u>RB</u>
	<u>HZ</u>
QC	

Summer 2025 *** Myrtle Beach, SC *** June 17-19, 2025

MEETING CRITIQUE

Please help us meet your meeting expectations by commenting on the following items:

Plant Status Reports (summer meeting only):	<u>Interesting</u>
Technical Content:	<u>Very helpful</u>
Vendor Participation:	<u>Excellent!</u>
Meeting Format (Breakout Sessions, Presentations, etc):	<u>I love my BWR brothers & sisters, but we're a PWR. Might be good to break out with other PWRs occasionally.</u>
Facilities (Meeting Room, Hotel Facilities, Location, etc):	<u>Most excellent.</u> <u>Zoom in on slides for the old people in the back.</u>
Topics you would like to see addressed in the future (include recommendations relative to presentation format like breakout session, technology presentation, survey, etc.):	
Please provide suggestions which would help justify your company's continued participation in the RP-ALARA Association:	<u>Great opportunity to hear about other plants resolutions to problems we haven't had yet. Maintaining contacts is crucial if we need to reach out about something.</u>
Suggested Future Conference Locations:	
Do you anticipate your plant being represented at the next meeting? If not, why?	<u>Maybe. Difficulty getting upper mgmt approval. \$\$\$</u>
Other Comments:	

Return completed form to the Committee Secretary prior to the end of the meeting.



Optional	
Name	<u>Ryan Brown</u>
Utility	<u>Vigra</u>

Board Review	
<u>RHB</u>	<u>Th</u>
<u>fm</u>	
<u>al</u>	

Summer 2025 *** Myrtle Beach, SC *** June 17-19, 2025

MEETING CRITIQUE

Please help us meet your meeting expectations by commenting on the following items:

Plant Status Reports (summer meeting only):
Technical Content:
Vendor Participation: <u>Great as always</u>
Meeting Format (Breakout Sessions, Presentations, etc):
Facilities (Meeting Room, Hotel Facilities, Location, etc): <u>Facilities = great Hotel Room very basic</u>
Topics you would like to see addressed in the future (include recommendations relative to presentation format like breakout session, technology presentation, survey, etc.): <u>- Neutron dose tracking, dosimetry, survey techniques, etc.</u> <u>- RWP "show and tell"</u>
Please provide suggestions which would help justify your company's continued participation in the RP-ALARA Association:
Suggested Future Conference Locations: <u>- Lake Tahoe - Colorado Springs</u> <u>- San Diego</u>
Do you anticipate your plant being represented at the next meeting? If not, why? <u>Yes</u>
Other Comments:

Return completed form to the Committee Secretary prior to the end of the meeting.



Optional	
Name	Narbedo
Utility	Chert Cliff

Board Review	
AA	12
RSSB	
1	
7C	

Summer 2025 *** Myrtle Beach, SC *** June 17-19, 2025

MEETING CRITIQUE

Please help us meet your meeting expectations by commenting on the following items:

Plant Status Reports (summer meeting only):
Technical Content: It is great to share changes in the industry (Wano 10) and share experiences with implemented technology
Vendor Participation: Would it be worthed to benchmark from ALARA conferences in other parts of the world (France, Finland) maybe they could come here to show their products
Meeting Format (Breakout Sessions, Presentations, etc): Great format, time flies smoothly where I was sitting was abit difficult to see the sorry wrong row :)
Facilities (Meeting Room, Hotel Facilities, Location, etc): The only AFI would be monitors where I was sitting was abit difficult see the projector
Topics you would like to see addressed in the future (include recommendations relative to presentation format like breakout session, technology presentation, survey, etc.): Can we incorporate AI to our work / Maybe we can adapt the WANO format, that being said, we don't want to wait until the conference to share our wins, maybe on the website include a section so associates can share their win
Please provide suggestions which would help justify your company's continued participation in the RP-ALARA Association: Make it a bit cheaper (LOL) probably include Brazil, Argentina, Mexico, the more companies probably the monthly or yearly fee might be cheaper
Suggested Future Conference Locations: Chicago, Texas
Do you anticipate your plant being represented at the next meeting? If not, why? I will advocate for my company to keep sending people to this conference
Other Comments: One of the best conference I have attended. Great people, engaged and easy to talk, friendly people. I am open to keep this growing

Return completed form to the Committee Secretary prior to the end of the meeting.



	Optional
Name	Erre Hood
Utility	STP

Board Review	
PM	
AGB	Hz
GC	

Summer 2025 *** Myrtle Beach, SC *** June 17-19, 2025

MEETING CRITIQUE

Please help us meet your meeting expectations by commenting on the following items:

Plant Status Reports (summer meeting only):	Have not really looked, consider specifying a goal
Technical Content:	Good info from presentations
Vendor Participation:	Good. Hospitality Suite was a good way to interact
Meeting Format (Breakout Sessions, Presentations, etc):	Breakouts provide useful discussions due to smaller groups
Facilities (Meeting Room, Hotel Facilities, Location, etc):	Good facilities. Need better set up for extension cords
Topics you would like to see addressed in the future (include recommendations relative to presentation format like breakout session, technology presentation, survey, etc.):	3D Mapping of site and improvements from it. RWP examples (multiple plants with "good" RWPs)
Please provide suggestions which would help justify your company's continued participation in the RP-ALARA Association:	Continued Peer/Vendor interactions. Good Presentations
Suggested Future Conference Locations:	Summer - Connecticut, Rhode Island, Minnesota Winter - Florida, Arizona
Do you anticipate your plant being represented at the next meeting? If not, why?	Yes
Other Comments:	Formalize some processes. Success/Challenge/Nugget sheet prior to meeting Clarify use of Plant Status Reports. Push HIT sheets harder, seemed slow Round Table topics identified early

Return completed form to the Committee Secretary prior to the end of the meeting.



Optional
Name VICTOR HUGHES
Utility BYRON

Board Review	
MM	2
NSC	H
GC	

Summer 2025 *** Myrtle Beach, SC *** June 17-19, 2025

MEETING CRITIQUE

Please help us meet your meeting expectations by commenting on the following items:

Plant Status Reports (summer meeting only):

DISAPPOINTED BYRON STATION WAS NOT INCLUDED

Technical Content:

ADEQUATE / INFORMATIVE MY FIRST TIME HARD TO COMPARE.

Vendor Participation:

MIX OF VENDORS IS REAL NICE WITH PLENTY OPTIONS

Meeting Format (Breakout Sessions, Presentations, etc):

FLOWED WELL, IN CASE OF CANCELLATIONS HAVE A BACK UP

Facilities (Meeting Room, Hotel Facilities, Location, etc):

NO COMPLAINTS

Topics you would like to see addressed in the future (include recommendations relative to presentation format like breakout session, technology presentation, survey, etc.):

ALARA -

- GETTING A STANDARDIZED SYSTEM (COMPUTER BASED PROGRAMS)

Please provide suggestions which would help justify your company's continued participation in the RP-ALARA Association:

NEW PROCESSES
REPRESENTATION, LEARNING OPPORTUNITIES, NEW PRODUCTS

Suggested Future Conference Locations:

CALIFORNIA

Do you anticipate your plant being represented at the next meeting? If not, why?

YES, STAYING INFORMED TO WHAT THE INDUSTRY IS DOING

Other Comments:

N/A



Optional	
Name	_____
Utility	_____

Board Review	
PM	_____
LSB	_____
_____	_____
_____	_____

Summer 2025 *** Myrtle Beach, SC *** June 17-19, 2025

MEETING CRITIQUE

Please help us meet your meeting expectations by commenting on the following items:

Plant Status Reports (summer meeting only):
Technical Content:
Vendor Participation:
Meeting Format (Breakout Sessions, Presentations, etc): NOT sure it needs to Be Broken out IN LIKE PLANTS.
Facilities (Meeting Room, Hotel Facilities, Location, etc): Green
Topics you would like to see addressed in the future (include recommendations relative to presentation format like breakout session, technology presentation, survey, etc.):
Please provide suggestions which would help justify your company's continued participation in the RP-ALARA Association:
Suggested Future Conference Locations: OUT WEST
Do you anticipate your plant being represented at the next meeting? If not, why? yes - New employees
Other Comments:

Return completed form to the Committee Secretary prior to the end of the meeting.



Optional	
Name	FELIX MARTINEZ
Utility	DCPP

Board Review	
PM	AT
RCB	AT
F	
GC	

Summer 2025 *** Myrtle Beach, SC *** June 17-19, 2025

MEETING CRITIQUE

Please help us meet your meeting expectations by commenting on the following items:

Plant Status Reports (summer meeting only):

NO ISSUES

Technical Content:

I WOULD HAVE LIKED TO SEE SOURCES FOR THE WANO PRESENTATION

Vendor Participation:

VENDOR PARTICIPATION WAS VERY GOOD

Meeting Format (Breakout Sessions, Presentations, etc):

NO ISSUES NOTED

Facilities (Meeting Room, Hotel Facilities, Location, etc):

THERE WERE NOT ENOUGH OUTLETS.

Topics you would like to see addressed in the future (include recommendations relative to presentation format like breakout session, technology presentation, survey, etc.):

CHEMISTRY CONTROLS, RP TECHNOLOGIES

Please provide suggestions which would help justify your company's continued participation in the RP-ALARA Association:

EXTENDED LISTING OF CONFERENCE LOCATIONS (1-2 YEARS)

Suggested Future Conference Locations:

SAN DIEGO, CA.

Do you anticipate your plant being represented at the next meeting? If not, why?

YES

Other Comments:

NO OTHER COMMENTS

Return completed form to the Committee Secretary prior to the end of the meeting.



	Optional
Name	<u>BRUCE BEATTIE</u>
Utility	<u>BRUCE POWER</u>

Board Review	
FM	HZ
2	
8	
2013 Q4	

Summer 2025 *** Myrtle Beach, SC *** June 17-19, 2025

MEETING CRITIQUE

Please help us meet your meeting expectations by commenting on the following items:

Plant Status Reports (summer meeting only):
Technical Content: <u>NO ISSUES. WOULD BE NICE TO HAVE MORE CANDID/SELF PROTECTION DISCUSSION - I WILL PROMPT FOR PARTICIPATION</u>
Vendor Participation: <u>FROM OPG & NB POWER.</u>
Meeting Format (Breakout Sessions, Presentations, etc): <u>NO ISSUES HERE</u>
Facilities (Meeting Room, Hotel Facilities, Location, etc): <u>EXCELLENT FACILITY & LOCATION, LOVE IT.</u>
Topics you would like to see addressed in the future (include recommendations relative to presentation format like breakout session, technology presentation, survey, etc.): <u>RWP MANAGEMENT - LIKE TO KNOW MORE ABOUT HOW YOU USE SENTINEL.</u>
Please provide suggestions which would help justify your company's continued participation in the RP-ALARA Association: <u>NO ISSUES HERE.</u>
Suggested Future Conference Locations:
Do you anticipate your plant being represented at the next meeting? If not, why? <u>YES. PROBABLY 2. WE WILL PREPARE A 20MIN</u>
Other Comments: <u>PRESENTATION ON DOSE MAPPING</u>

Return completed form to the Committee Secretary prior to the end of the meeting.



Optional	
Name	Jake Collett
Utility	AEP Cook

Board Review	
pm	Hz

Summer 2025 *** Myrtle Beach, SC *** June 17-19, 2025

MEETING CRITIQUE

Please help us meet your meeting expectations by commenting on the following items:

Plant Status Reports (summer meeting only):

Technical Content:

3d printing presentation was great

Vendor Participation:

excellent

Meeting Format (Breakout Sessions, Presentations, etc):

Breakouts and vendor-presentations were great

Facilities (Meeting Room, Hotel Facilities, Location, etc):

excellent

Topics you would like to see addressed in the future (include recommendations relative to presentation format like breakout session, technology presentation, survey, etc.):

Please provide suggestions which would help justify your company's continued participation in the RP-ALARA Association:

New useful technologies and practices

Suggested Future Conference Locations:

Here again

Do you anticipate your plant being represented at the next meeting? If not, why?

hope fully

Other Comments:

upload presentations when possible to group website

Return completed form to the Committee Secretary prior to the end of the meeting.



RP ALARA Presentations





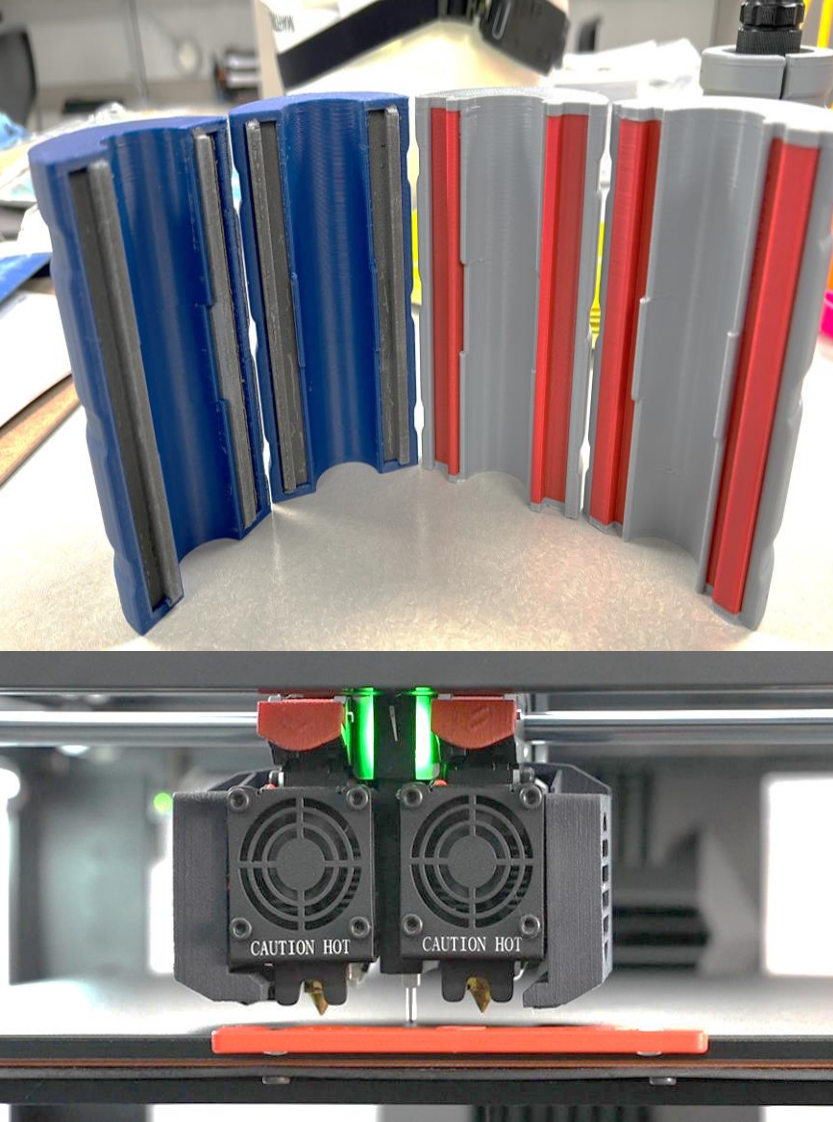
A. RP ALARA Presentations

1. 3D Printing
2. WANO 10 Method



3D Printed Shielding





3D Printed Shielding

DCPP RP ALARA



Together, Building
a Better California



OE: IRIS 586757 3DP Tungsten Shielding

DCPP RP ALARA



Together, Building
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INPO IRIS 586757

- Bruce Power introduced to INPO an innovation in radiation shielding in 2023.
- Leveraged 3D printing technology with a tungsten-infused filament for radiation shielding applications.

SAPN 51242803

- INPO directed DCCP to evaluate use of 3D printing technology in everyday applications to include 3D shielding.
- DCCP ALARA concluded that routine use of this technology could occur under \$20,000.

Routine Use

- Leverage 3D printing technology in a low-cost and repeatable manner with minimal effort by the end-user.



Technology Overview

DCPP RP ALARA



Together, Building
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Fused Filament Fabrication (FFF)

FFF Description

- Additive manufacturing process that uses thermoplastic material to create 3D objects.
- Deposits of automatically arranged melted plastic builds a 3D object layer by layer.
- Also known as “Fused Deposition Modeling”.

Printers

- A host of printers exist that utilize the FFF process ranging from simple machines on Amazon to the industrial machines at Raise 3D and beyond.
- DCCP uses the Raise 3D Pro3 Plus H/S and Bambu X1E printers for our project.



Cost & Benefit Analysis

Procurement & Implementation



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Cost of Procurement & Implementation

Item	Vendor	Purchase Type	Cost
<i>Raise 3D Pro 3 H/S Printer</i>	Raise 3D	Initial	\$7,599.00
<i>Printer Materials</i>	Raise 3D	Initial	\$3,468.87
<i>Miscellaneous Materials</i>	Raise 3D	Supplemental	\$4,081.37
<i>Bambu X1E Printer</i>	Matter Hackers	Initial	\$4,000.00
<i>SolidWorks Software</i>	Hawk Ridge	Initial	\$8,000.00
<i>Tungsten Filament</i>	Virtual Foundry	Initial	\$2,400.00
<i>Tungsten Filament</i>	Virtual Foundry	Supplemental	\$6,788.97
Total			\$36,338.21

NOTE: Costs do not include time spent learning about software or 3D printing.

Disadvantages

Disadvantages

- High learning curve for new users.
- Front end software appears very expensive
- Constant misalignment of nozzles led to grinding through multiple build plates.
- Factory misalignment of nozzles identified after 2-months of troubleshooting.
- Routine maintenance is required (not advertised).

Disadvantages

- Buyer is required to perform all maintenance.
- Vendor on-site work is extremely expensive (thousands for just a visit).
- Vendor support is limited to emails and phone calls that significantly delays printer repair.
- High cost for tungsten filament (\$800/kg-filament).
- **Print time and design complexity are proportional.**

Advantages

- High potential for a significant reduction of costs/time for material use.
- Easily repeatable builds after design/product are stabilized.
- Simple process to print out 3D Objects after design completion.
- Most builds can be finished within a 12-hour shift.

Advantages

- Engineering has agreed to re-evaluate use of shielding on in-service systems that use fitted shielding.
- Relatively simple knowledge transfer and training on printer use and daily checks.
- Maintenance is relatively simple after learning.

Everyday Materials

- Sample carriers
- Source holders
- Portal monitor source holders
- Instrument calibration tools.
- Probe cover for floor frisking

Shielding Applications

- Shielded
 - Sample Carriers
 - Source Carriers
 - Frisker Probes
 - Frisker Caves (in dev)
 - Straight Pipes
 - Elbows
 - Tee-connections
 - Brackets



Shielding Effectiveness

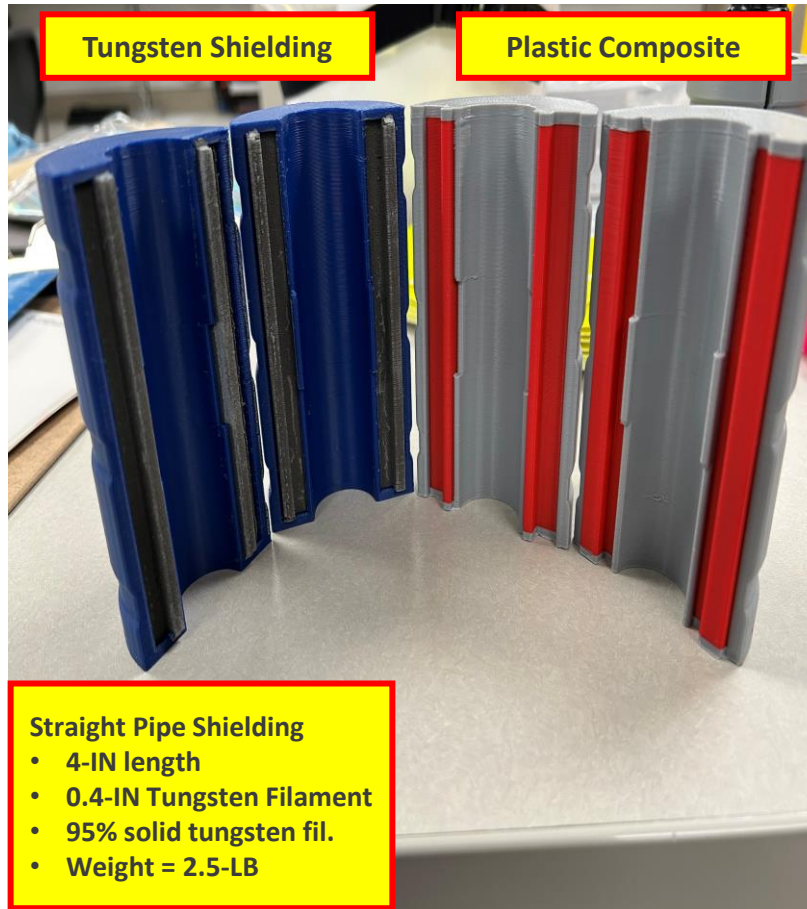
Tungsten Application



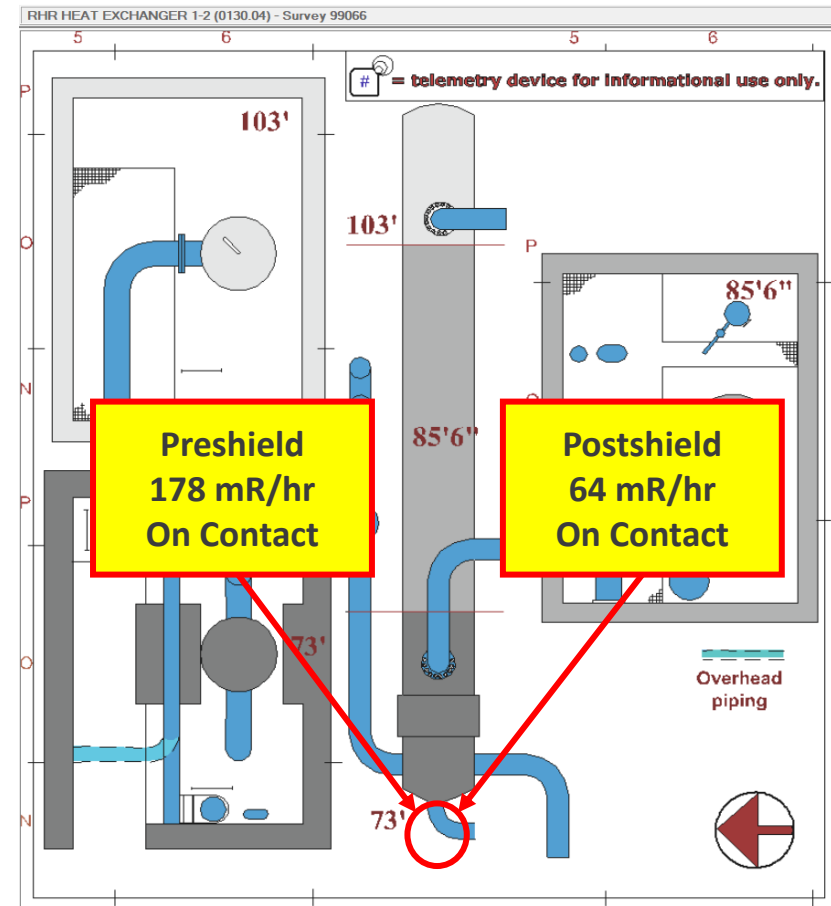
Together, Building
a Better California

Radiation Shielding

3D Printed Parts



RHR HX Pipe Drain





Final Thoughts



DCPP 3D Printing



Together, Building
a Better California

3D Printed Radiation Shielding

Feasibility

- Experience is essential for proper builds and cost management.
- Once designs are set, builds are reliably repeatable.
- Routine maintenance is essential for consistent performance.
- Convenience of 3D Printing makes the effort worthwhile.
- The opportunity to shield hotspots on in-service systems is worth the effort.
- Successful performance leads the way to further enhancements in the process.

Questions, Comments, Recommendations?

Contact Felix Martinez at
felix.martinez@pge.com





WANO 10 Method





Transition to WANO Method 10 for RP

Introduction

- INPO transitioned to Method 10 on January 1st 2025
 - This change was made to align INPO and WANO
 - Site Collective Radiation Exposure (CRE) will be the only input to Station INPO Index
 - RPI will still be tracked by INPO but have no link to Station INPO Points
- Current Method - Radiation Protection Index- (RPI)
 - 6 different inputs – Total of 100 Points
 - CRE – 20 Points
 - Previous 24 months online CRE + last outage CRE / 2 = 2yr rolling average
 - 2 yr average < 110 Rem = 20 Points, >220 Rem = 0 Points
 - Dose Control (LHRA) – 30 Points
 - Dose Control (HRA) – 21 Points
 - RAM Control (PA) – 10 Points
 - RAM Control (RCA) – 4 Points
 - Contamination Control – 5 Points
 - RAM Shipping – 10 points
 - 7.5 Points attributed to Station INPO Index Points
 - RPI >90 Points = 7.5 Station INPO Points

Radiation Protection Index (RPI)

Radiation Protection Index	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
CRE Points BWR (20 Points)	18.126	18.000	14.101	14.040	13.900	13.989	14.369	14.409	16.338	16.281	16.250	16.249
Dose Control Event Points (30 Points)	30	30	30	30	30	30	30	30	30	30	30	30
Dose Control INPO Points (21 Points)	21	21	21	21	21	21	21	21	21	21	21	21
RAM PA Points (10 Points)	10	10	10	10	10	10	10	10	10	10	10	10
RAM RCA Points (4 Points)	4	4	4	4	4	4	4	4	4	4	4	4
Contamination Control Events Index (5 Points)	5	5	5	5	5	5	5	5	5	5	5	5
RPI RAM Shipping (10 Points)	10	10	10	10	10	10	10	10	10	10	10	10
RPI Value	98.126	98.000	94.101	94.040	93.900	93.989	94.369	94.409	96.338	96.281	96.250	96.249
RPI Points	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Unit 1 RP Index	100	100	100	100	100	100	100	100	100	100	100	100
Unit 2 RP Index	98.1	98.0	94.1	94.0	93.9	94.0	94.4	94.4	96.3	96.3	96.2	96.2
Station RP Index	99.1	99.0	97.1	97.0	97.0	97.0	97.2	97.2	98.2	98.1	98.1	98.1
INPO Point Value	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Unit 1 INPO Points (Max 7.5)	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Unit 2 INPO Points (Max 7.5)	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Station INPO Points (Max 7.5)	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50

INPO Method 10

- Method 10
 - Only one input
 - Collective Radiation Exposure
 - Cycle CRE (Online and Outage)/ NF = Cycle Average
 - Total dose for previous cycle duration (18 months or 24 months)
 - Normalized by dividing cycle duration by 12 (NF)
 - 10 Points attributed to Station INPO Index Points
 - BWRs
 - Cycle Average <120 Rem = 10 Points
 - Cycle Average >220 Rem = 0 Points
 - PWRs
 - Cycle Average <60 Rem = 10 Points
 - Cycle Average >80 Rem = 0 Points

Collective Radiation Exposure	
	Calculation
1. The cycle value is calculated as:	
a.	$CRE_{Cycle} = (\sum EWBE_{Months} + \sum CIWBE_{Months}) / NF$
b.	Where:
i.	CRE_{Cycle} = Collective Radiation Exposure value for the cycle
ii.	$EWBE_{Months}$ = External Whole Body Exposure value as promoted by WANO screeners
iii.	$CIWBE_{Months}$ = Calculated Internal Whole Body Exposure value as promoted by WANO screeners
iv.	NF = Normalization Factor, (Cycle Length Months 12)

WANO Performance Indicator Index

WANO Performance Indicator Index - Method 10

Definition

This indicator is calculated using a weighted combination of performance indicators.

Guidance/Key Insights to Understand:

- WANO specifies points redistribution- if up to half of the contributors are missing, the remaining indicators will ALL be weighted more heavily with a common multiplier to compensate for the missing contributor's points.
- WANO specifies contributing indicators are rounded to the value displayed, contrary to PICs normal behavior where rounding only happens displaying the final value on the website.
- Each indicator is assigned a point value based on its value.
- Point earned are interpolated between the full and no points thresholds.
- The point values for individual indicators are summed to determine the overall index for a unit.
- This indicator is a Unit Level Indicator.
- This indicator first calculated Jan 1996.

Performance Indicator	Duration	Points	Full Points	No Points
High Pressure Injection Unavailability (indicatorid: 101500)	36M	10	0.02	0.03
Heat Removal Unavailability (indicatorid: 101501)	36M	10	0.02	0.03
Emergency AC Power Unavailability (indicatorID: 101502)	36M	10	0.025	0.035
Unplanned Scram Rate (indicatorID: 101801)	24M	15	0.5	1
Forced Loss Rate (indicatorID: 101498)	Cycle	15	1.25	4
Unit Capability Rate (indicatorID: 101798)	Cycle	10	98	93
Total Industrial Safety Accident Rate (indicatorID: 101800)	Cycle	5	0.05	0.5
Collective Radiation Exposure (indicatorID 101495)	Cycle	10	BWR: 120 PHWR:80 PWR: 60	BWR: 220 PHWR:140 PWR: 120
Fuel Reliability (indicatorID 101505)	Index	10	BWR: 300 PHWR:0.0005 PWR: 0.0005	BWR: 3000 PHWR:0.005 PWR: 0.005
Chemistry Performance (indicatorID 101496)	Cycle	5	1.01	1.2

Data Requirements:

At least 50% of contributing indicators must have a calculated value for the month.

Radiation Protection Index (RPI)

BWR Method 10 CRE Point Calculator

2 yr Average <120 Rem = 10 Points 2 yr Average >220 Rem = 0 Points

Unit 1				Unit 2			
Month	Total Monthly Dose (Outage and Online)	Cycle Average	Method 10 CRE Points	Month	Total Monthly Dose (Outage and Online)	Cycle Average	Method 10 CRE Points
Jan-24	0.806	77.52	10.00	Jan-24	4.018	120.29	9.97
Feb-24	0.872	77.29	10.00	Feb-24	8.143	120.94	9.91
Mar-24	0.674	77.18	10.00	Mar-24	184.423	141.47	7.85
Apr-24	3.871	77.86	10.00	Apr-24	4.308	141.79	7.82
May-24	1.032	71.67	10.00	May-24	5.030	142.55	7.74
Jun-24	1.294	71.56	10.00	Jun-24	1.974	142.06	7.79
Jul-24	0.856	71.58	10.00	Jul-24	1.394	139.97	8.00
Aug-24	0.833	71.70	10.00	Aug-24	2.469	139.75	8.02
Sep-24	1.379	72.17	10.00	Sep-24	1.709	127.52	9.25
Oct-24	1.182	72.49	10.00	Oct-24	2.779	127.78	9.22
Nov-24	1.173	72.69	10.00	Nov-24	2.027	127.96	9.20
Dec-24	1.163	72.46	10.00	Dec-24	2.197	127.96	9.20
Jan-25	1.163	72.01	10.00	Jan-25	2.917	126.90	9.31
Feb-25	1.163	71.53	10.00	Feb-25	2.917	127.58	9.24
Mar-25	1.163	23.01	10.00	Mar-25	2.917	128.18	9.18
Apr-25	127.643	76.98	10.00	Apr-25	2.917	128.97	9.10
May-25	1.163	77.02	10.00	May-25	2.917	128.30	9.17
Jun-25	1.163	77.17	10.00	Jun-25	2.917	127.83	9.22
Jul-25	1.163	77.39	10.00	Jul-25	2.917	128.06	9.19
Aug-25	1.163	77.34	10.00	Aug-25	2.917	128.67	9.13
Sep-25	1.163	77.35	10.00	Sep-25	2.917	126.35	9.36
Oct-25	1.163	77.39	10.00	Oct-25	2.917	126.60	9.34
Nov-25	1.163	77.53	10.00	Nov-25	2.917	127.40	9.26
Dec-25	1.163	77.79	10.00	Dec-25	2.917	127.74	9.23

PWR Method 10 CRE Point Calculator

2 yr Average <60 Rem = 10 Points 2 yr Average >120 Rem = 0 Points

Unit 1				Unit 2			
Month	Total Monthly Dose (Outage and Online)	2-Year Average	Method 10 CRE Points	Total Monthly Dose (Outage and Online)	Monthly Dose	2-Year Average	Method 10 CRE Points
Jan-24	0.290	27.44	10.00	Jan-24	0.21	122.90	0.00
Feb-24	0.140	26.84	10.00	Feb-24	0.22	119.59	0.04
Mar-24	0.140	26.47	10.00	Mar-24	0.17	47.99	10.00
Apr-24	28.980	39.70	10.00	Apr-24	0.13	46.22	10.00
May-24	0.620	33.31	10.00	May-24	0.12	44.54	10.00
Jun-24	0.250	32.67	10.00	Jun-24	0.18	43.15	10.00
Jul-24	0.130	32.34	10.00	Jul-24	0.12	40.42	10.00
Aug-24	0.350	32.21	10.00	Aug-24	0.34	39.14	10.00
Sep-24	0.118	32.05	10.00	Sep-24	0.118	26.11	10.00
Oct-24	0.232	16.68	10.00	Oct-24	0.232	26.20	10.00
Nov-24	0.187	16.73	10.00	Nov-24	0.187	26.25	10.00
Dec-24	0.111	16.70	10.00	Dec-24	0.111	26.20	10.00
Jan-25	0.146	16.68	10.00	Jan-25	0.146	26.22	10.00
Feb-25	0.139	16.66	10.00	Feb-25	0.139	26.24	10.00
Mar-25	0.132	16.67	10.00	Mar-25	0.132	26.25	10.00
Apr-25	127.643	80.43	3.96	Apr-25	0.126	13.57	10.00
May-25	1.163	80.91	3.91	May-25	2.917	3.32	10.00
Jun-25	1.163	81.40	3.86	Jun-25	2.917	4.72	10.00
Jul-25	1.163	81.93	3.81	Jul-25	2.917	6.13	10.00
Aug-25	1.163	82.43	3.76	Aug-25	2.917	7.46	10.00
Sep-25	1.163	82.91	3.71	Sep-25	2.917	8.82	10.00
Oct-25	1.163	83.40	3.66	Oct-25	2.917	10.21	10.00
Nov-25	1.163	83.92	3.61	Nov-25	2.917	11.60	10.00
Dec-25	1.163	84.46	3.55	Dec-25	2.917	13.01	10.00

INPO Method 10 Monthly Data Requests

Month:																							
Station	BWD		BYR		CC		CPS	DRE		FITZ	GN	LAS		LIM		NMP		PB		QC		Fleet Totals	
Unit	U1	U2	U1	U2	U1	U2	U1	U2	U3	U1	U1	U1	U2	U1	U2	U1	U2	U2	U3	U1	U2		
INPO Method 10 (Unit)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00	10.00	10.00	9.29	10.00	10.00	10.00	6.70		
INPO Method 10 (Site)	10.00		10.00		10.00		10.00	10.00		10.00	10.00	5.00		10.00		9.65		10.00		8.35			9.42
RPI (Unit)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	80.0	92.0	100.0	100.0	96.4	100.0	100.0	100.0	91.0		
RPI (Site)	100.0		100.0		100.0		100.0	100.0		100.0	100.0	90.0		92.0		98.2		100.0		95.5		97.98	
Business Plan Goals																							
Annual Goal	33.60	3.50	3.00	35.60	4.00	50.00	156.00	177.40	21.60	27.00	2.80	23.30	192.00	23.00	192.00	147.00	40.00	28.00	152.00	205.00	20.00	1536.80	
Annual Stretch Goal																						0.000	
Year to Date Actuals																							
BP Goal through the end of the current month (O.3)																						0.000	
Actual																						0.000	
Status On-track/Off-track to BP	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
Online Emergent Dose																						0.000	
Outage																							
Outage Business Plan Goal (Month)																						0.000	
Outage Stretch Goal (Month)																						0.000	
Outage Estimate (Month)																						0.000	
Outage Actual (Month)																						0.000	
Outage Projected Emergent (Month)																						0.000	
Current Month																							
Monthly Business Plan Goal (0.3)																						0.000	
Monthly Estimate (SAC)																						0.000	
Monthly Actual																						0.000	
Status On-track/Off-track to BP Goal	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
Status On-track/Off-track to SAC Estimate	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
Site Historical Best Low Dose Month Performance																							
Record Month	03/2022		07/2020		12/2020		08/2020	07/2020		12/2019	05/2021	11/2019		10/2015		08/2016		12/2016		11/2016			
Record Dose Value	0.116		0.127		0.083		0.401	1.608		0.648	0.047	2.508		0.841		1.893		1.336		1.594			
Site Historical Best Low Dose Outage Performance																							
Record Refuel Outage Number	A1R18		B1R24		CC2R24		C1R16	D3R25		R22	G1R39	L1R18		Li1R18		N1R26		P3R23		Q1R27			
Record Dose Year	2015		2021		2021		2016	2018		2014	2015	2020		2020		2021		2021		2021			
Record Dose Value	16.766		17.016		38.521		16.490	69.808		90.745	26.492	112.025		64.124		70.072		86.550		104.144			
Site Historical Best Low Dose Year Performance																							
Record Year	2019		2021		2021		2020	2020		2014	2022	2020		2015		2021		2021		2021			
Record Dose Value	27.152		21.518		40.506		13.217	115.000		151.9	1.870	179.220		121.954		124.709		144.783		136.238			



Vendor Presentations





A. RPAC 2025 Vendor Presentations

1. AVANTech
2. Framatome
3. Gonzales Group Sales
4. H3D
5. Innovative Industrial Solutions
6. Master-Lee
7. Mirion
8. NPO
9. RadSurv
10. Westinghouse



AVANTech





AVANTech



SOLIDS COLLECTION FILTER (SCF™)



Proprietary SCF™

Standards & Certifications

ASME NQA-1



508A



SCF™ Liner & Process Shield

Problem-

NUCLEAR INDUSTRY FILTRATION

individual filters expose workers to
radiation and increase the risk of
contamination

ESSENTIAL ELEMENT of WASTEWATER PROCESSING.
-MECHANICAL FILTRATION
-CAN INCORPORATE ION EXCHANGE

The SCF™ Solution-

Filters directly into the final burial container
No need to handle individual filters
Reduces exposure and contamination
Simplifies waste processing

THE RESULT: Huge Savings in Dose,
Manpower, and Critical Path Time!



**15
years**

DEVELOPED and **PROVEN** its SCF™ technology used in
LIQUID RADWASTE SYSTEMS and **PRIMARY SYSTEMS**
(i.e.: spent fuel pools, torus, and suppression pools).

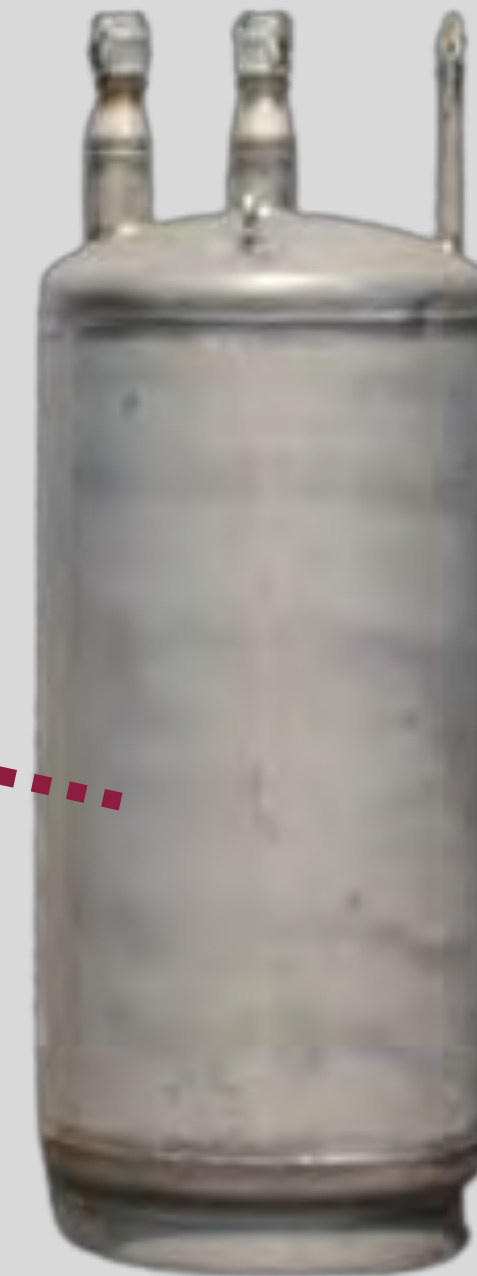
Technical Excellence Fuels Success!

The SCFT™ -55



Technical Excellence Fuels Success!

The SCFT™ -75



Technical Excellence Fuels Success!

AVANTech's Heavy Shield



Technical Excellence Fuels Success!

Setting up on Refuel Floor - BWR



Technical Excellence Fuels Success!

SCF™ -120 Basic 10'x 10' Footprint



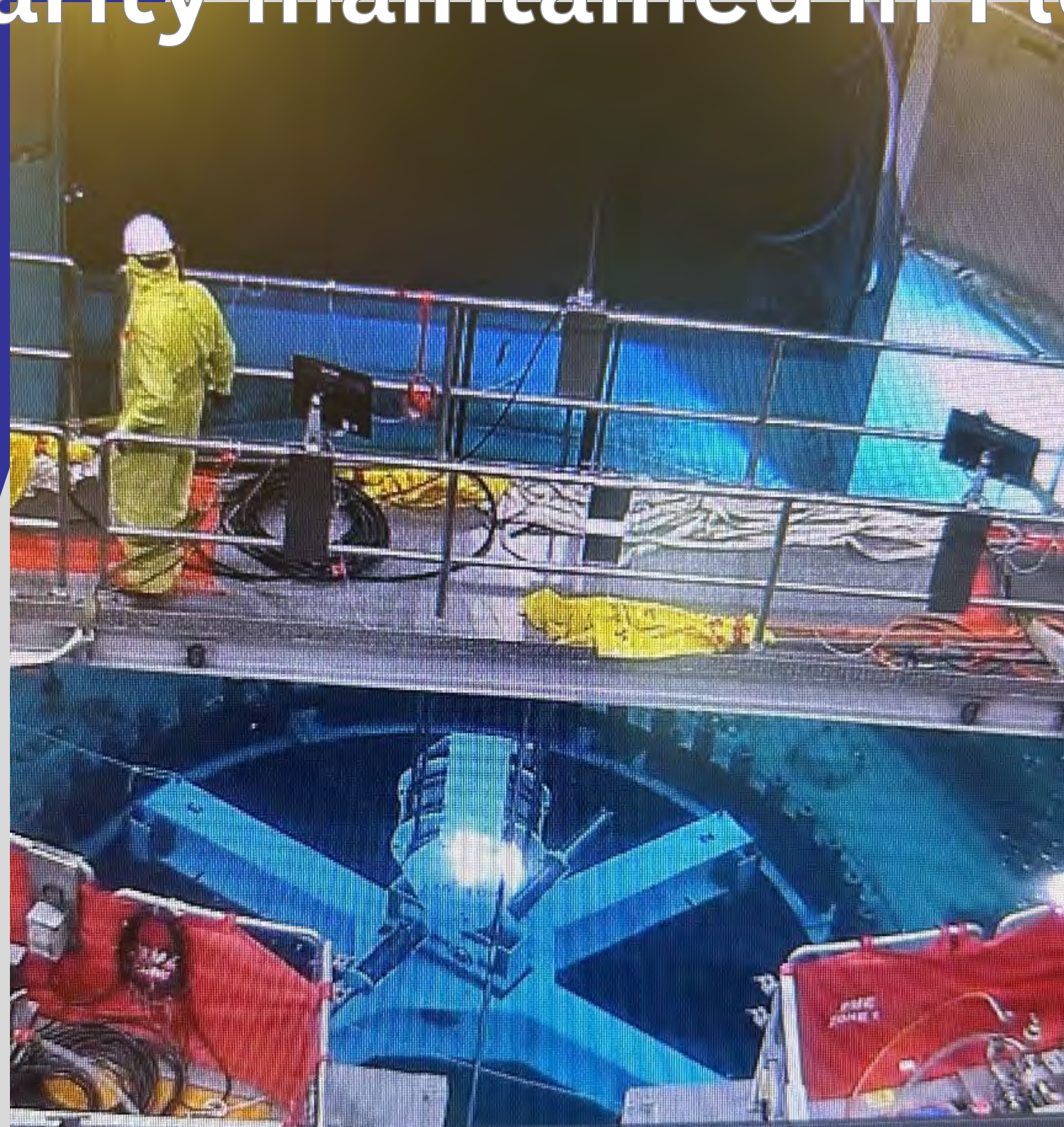
Technical Excellence Fuels Success!

BWR Flood up through LARGE SCFT™



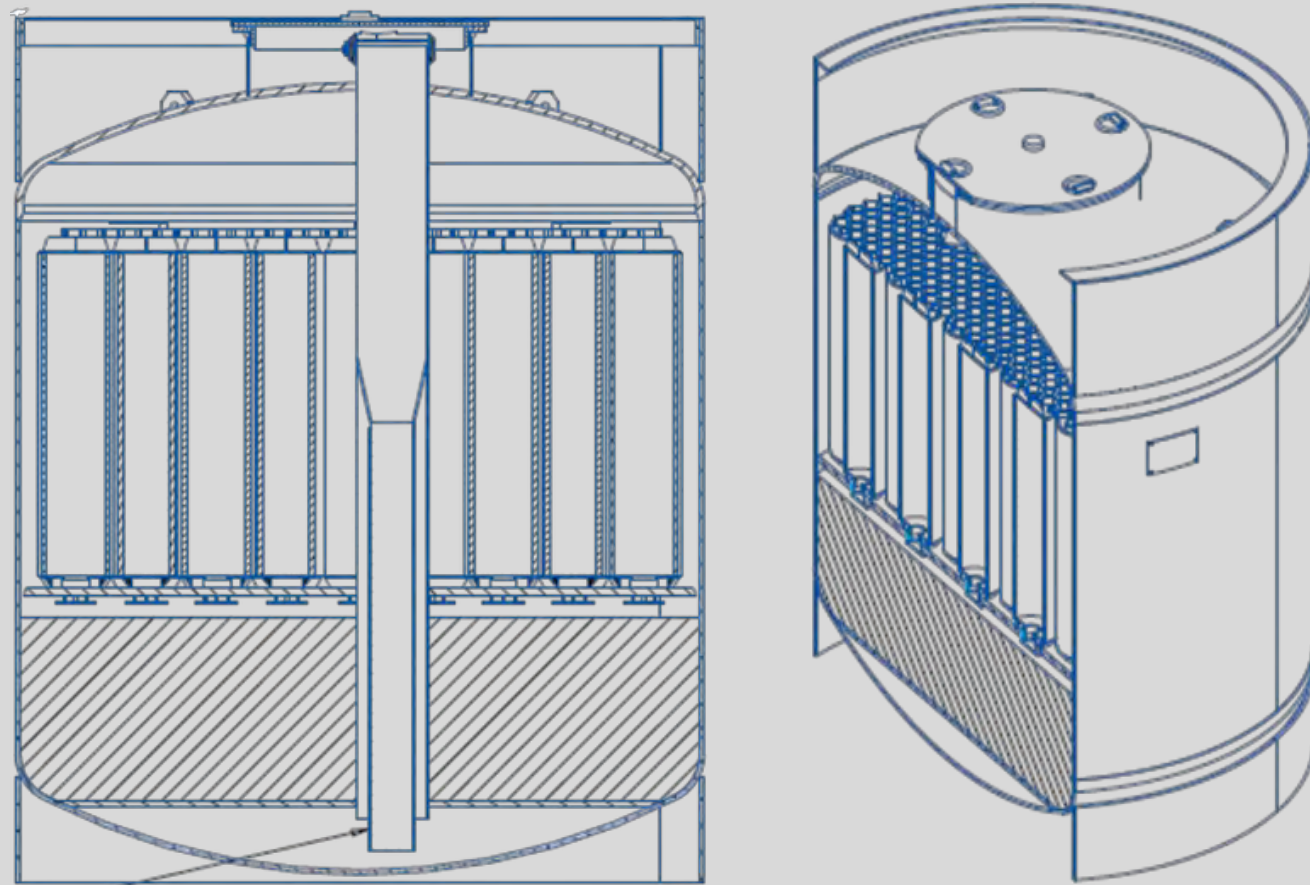
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BWR Pool clarity maintained in Flood up

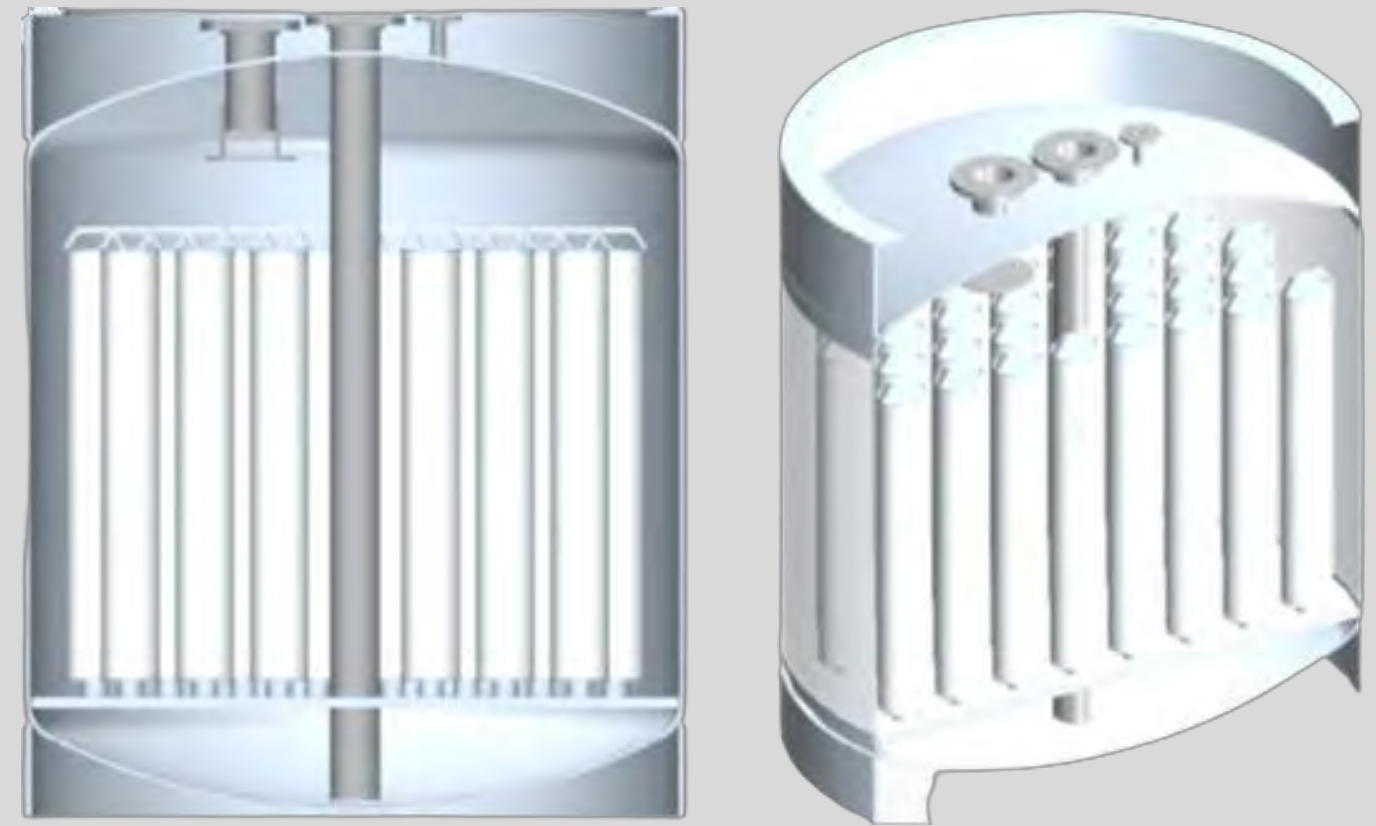


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SCF™ Innovations



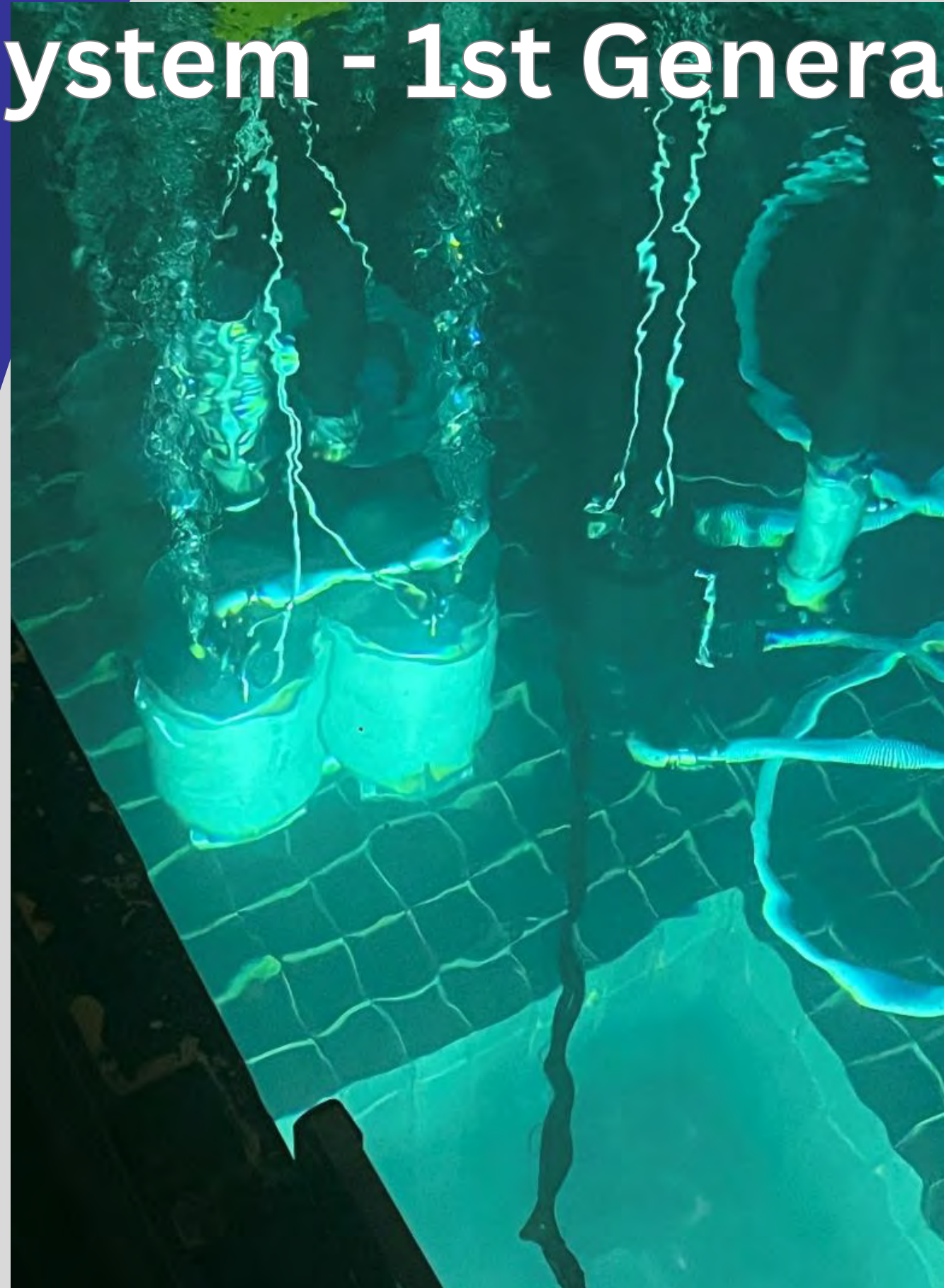
Section Views of SCF-120MX IX



Section Views of SCF-120MX

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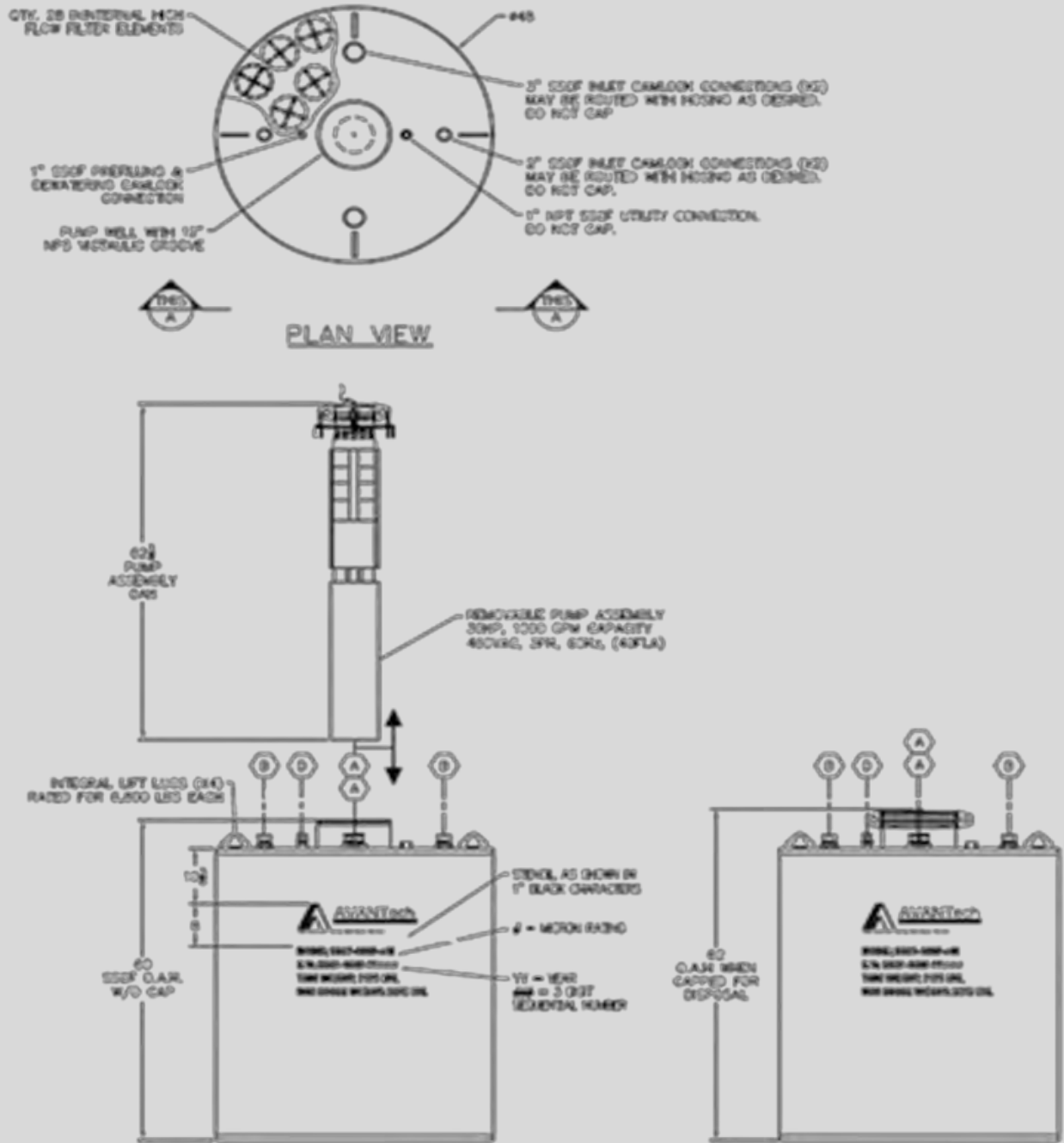
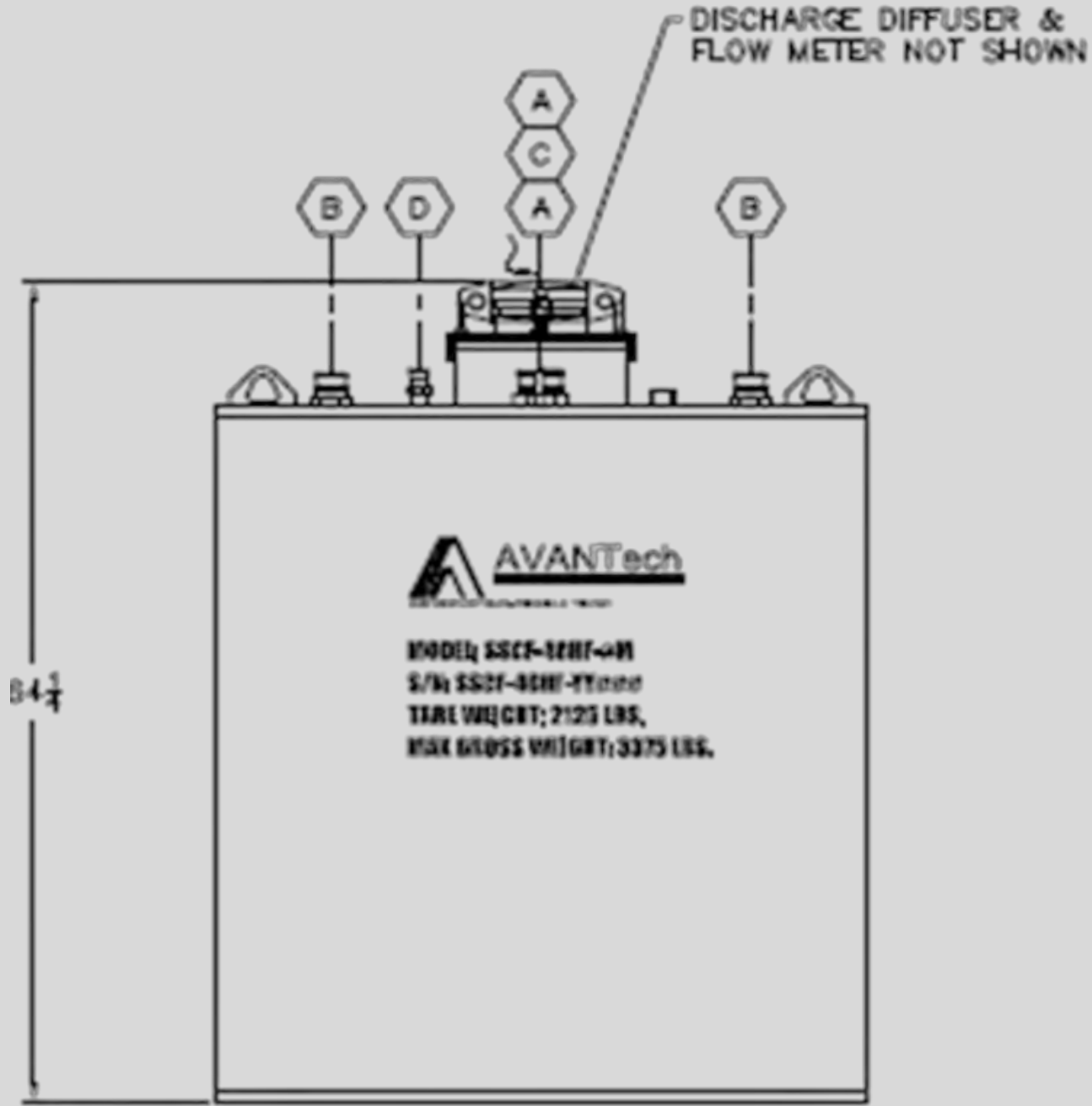
Underwater System - 1st Generation



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2nd Generation Submersible



Technical Excellence Fuels Success!

3 Locations



Knoxville, TN



Columbia, SC



Richland, WA



We are a U.S. company, designing and fabricating our systems in Columbia, South Carolina; Richland, Washington; and Knoxville, Tennessee.



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THANK YOU



Framatome





**Spring 2025
Cross Functional
Post-Outage Review**

June 10 – 11, 2025

Safety Message



SAFETY. First and foremost,
the critical success factor for our
people, products and services.

Spring 2025 Top Focus Areas

Fundamental Worker Behaviors

You are “Ready to Work” when you combine these:

Self-Awareness

- Am I “on my game”?
- No action/decision unless “on my game”.
- Can I recognize if not “on my game”?

Engagement

- Don’t be merely a “witness”.
- Engage, be critical.
- Have courage to act.

Situational Awareness

- Apathy, complacency, and denial are three primary barriers to good situational awareness.

- **Process is good** – ensures consistency.
- **People with “Fundamental Worker Behaviors” are better** – enables excellence.
 - Focus on Process alone can create blindness to anomalies without “Fundamental Worker Behaviors.”
 - If you are “cook booking” instructions without understanding the task / situation, you will not recognize anomalies / risks / hazards.

Excellence results come from combining a reverence for Process and Fundamental Worker Behaviors.

IOM	Juan Pallin
SS	Rob Smith
PM	Rusty Cox
PM	Antoine Cristini (I&C)
PE	Andy McFadden
KM	Albert Kluttz

Turkey Point 4R35

(3/1-4/4)

Work Scope	Safety	Quality	Performance	Delivery	Comments
PWR Refuel Services					S <ul style="list-style-type: none"> Zero OSHA Recordables or First Aids Report Only – Individual's knee contacted a trailer hitch (0652) FFD issue (0362) Vehicle Accident – Individual was rear ended while off work (0411)
					Q <ul style="list-style-type: none"> Core Barrel Guide Pin Brackets Degraded (0549) NW Cable Bridge Winch Not Functional (0563) Flexureless Insert Tool Issues (0847) Flexureless Insert Inner Housing Distorted (0851)
					P <ul style="list-style-type: none"> 0 Hu Events
					D <ul style="list-style-type: none"> Emergent support with thimble tube support system installation/removal W4 performed ahead of schedule (Focus Area pre-outage) W6 reload rate ahead of schedule when accounting for delays (cable reel replacement) 2 VOC Surveys = 9.5 Avg.

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Turkey Point 4R35

(3/1-4/4)

Work Scope	Safety	Quality	Performance	Delivery	Comments
SRS FHE Support					S <ul style="list-style-type: none"> Zero OSHA Recordables or First-Aids
					Q <ul style="list-style-type: none"> Identified 7 ongoing issues with SFP Bridge (0762, 0763, 0764, 0765, 0768, 0769, 0837) Identified power issues prior to reload and mitigated before reload Repaired faulty festoon cable post core reload (0804) Replaced mast rotation device and Manipulator crane sheaves prior to core offload
					P <ul style="list-style-type: none"> No human performance issues Implemented jog speed increase – Supported restoration of expected fuel movement rate
					D <ul style="list-style-type: none"> Implemented jog speed increase – Supported restoration of expected fuel movement rate Manipulator crane air hose reel replacement during fuel reload (0835) SFP crane lost motion numerous times during refuel and shuffles (See CRS under Quality)

IOM	Juan Pallin
OM	Gary Fries (D) , Danny Pantoja (N)
SS	Rob Smith
PM	Rusty Cox
PM	Antoine Cristini (I&C)
PE	Andy McFadden
KM	Albert Kluttz

Turkey Point 4R35

(3/1-4/4)

Work Scope	Safety	Quality	Performance	Delivery	Comments
SGS ECT, WL,UBF, SSI, MW					<ul style="list-style-type: none"> Report Only – Cramp in back while moving WL hoses (0695) Personal Medical – Event occurred on-site requiring offsite medical treatment (0544) Personal Medical – Excited platform on his own – proper hydration (0752)
					S <ul style="list-style-type: none"> Personal Medical – Felt dizzy while working in ECT trailer (0778) Personal Medical – Back pain (0823) Vehicle Accident – Individual forced off of the road on plant access road (0633) Vehicle Accident – Another car ran red light causing the individual to T-bone another car (0922)
					Q <ul style="list-style-type: none"> Challenges with Work Orders syncing to IPADs causing re-work. Dropped Object – RP knocked nut out of WL tech hand (0679)
					P <ul style="list-style-type: none"> New impact drill worked as planned saving schedule time and dose. RWP manhours improved from previous outage All new foreign objects identified by SSI were removed successfully. First time performing 12 GTs of full-length Array in parallel, resulting in fastest full scope ECT window for TP
					D <ul style="list-style-type: none"> 2 VOC Surveys = 10 Avg. First time implementation ECT NASCAR & SSI trailers – Reducing setup time/risks Successfully planned bandwidth requirements for the first time large array scope

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Turkey Point 4R35
(3/1-4/4)

Work Scope	Safety	Quality	Performance	Delivery	Comments
RCP <ul style="list-style-type: none"> Replace 3 Flowserve NX seals 3 RCPM PMs Replace 1 RCP Rotating Assembly 					S No OSHA recordables or First Aids Met dose goals: 79% of total estimate
					Q First Time Quality No Equipment Operation Issues
					P No Re-Work or HU Errors
					D Met Contractual Obligations Without Issue Strong Leadership by Task Leads and Project Coordinator Schedule Adherence High VOC scores

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Turkey Point 4R35

(3/1-4/4)

Work Scope	Safety	Quality	Performance	Deliverables	Comments
NDE 10 Yr. ISI 100% ID Surfaces Nozzles VT-1					S Zero OSHA Recordables or First Aids
					Q Missed Baffle Plate on visual exam (0815) Site Level III identified one of the baffle plates was missed during exam (0815)
					P Dose actual: 6.945 vs goal 12.372 Utilized SUSI for CRGT LFW exams
					D 2 VOC Surveys = 10 Avg.
NDE MRP					S Personal Medical – Fainted in airport from food poisoning (0767)
					Q LGWIT Lacing broke (0777) SUSI propeller (0753) Over Schedule by 10 hours on LGWIT
					P No performance issues
					D See survey results above
NDE Bottom Mounted Nozzle					S Report Only – Heat related event – while under head setting up for PT exams (0754)
					Q Did not finish initial assessment during first window, due to component rust and tooling issues Individual did not wear his head mounted dosimetry (multi-pack) as required. Peer check was not adequately performed at entrance (0724)
					P Multiple Crawler failures causing emergent shipment
					D See survey results above

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Turkey Point 4R35

(3/1-4/4)

Work Scope	Safety	Quality	Performance	Delivery	Comments
IBPE 4K Breaker Installation					S • Good Performance – No safety Events
					• 2 circuit breakers were returned for warranty repairs for equipment issues found prior to installation
					Q • 1 subcontractor had a human performance event by not landing wires on a switchgear component (CR-2025-1185) after replacement. Problem was resolved immediately on discovery
					P • No issues
					• Exceeded Expectations – the installation team completed the work 2 days ahead of schedule after an unrelated delayed start. The most proficient performance to date.
					D • Except for the human performance event listed above, all post installation communication was positive and informed that a Lesson's Learned meeting was not needed.
					• No VOC survey completed as of 5/21

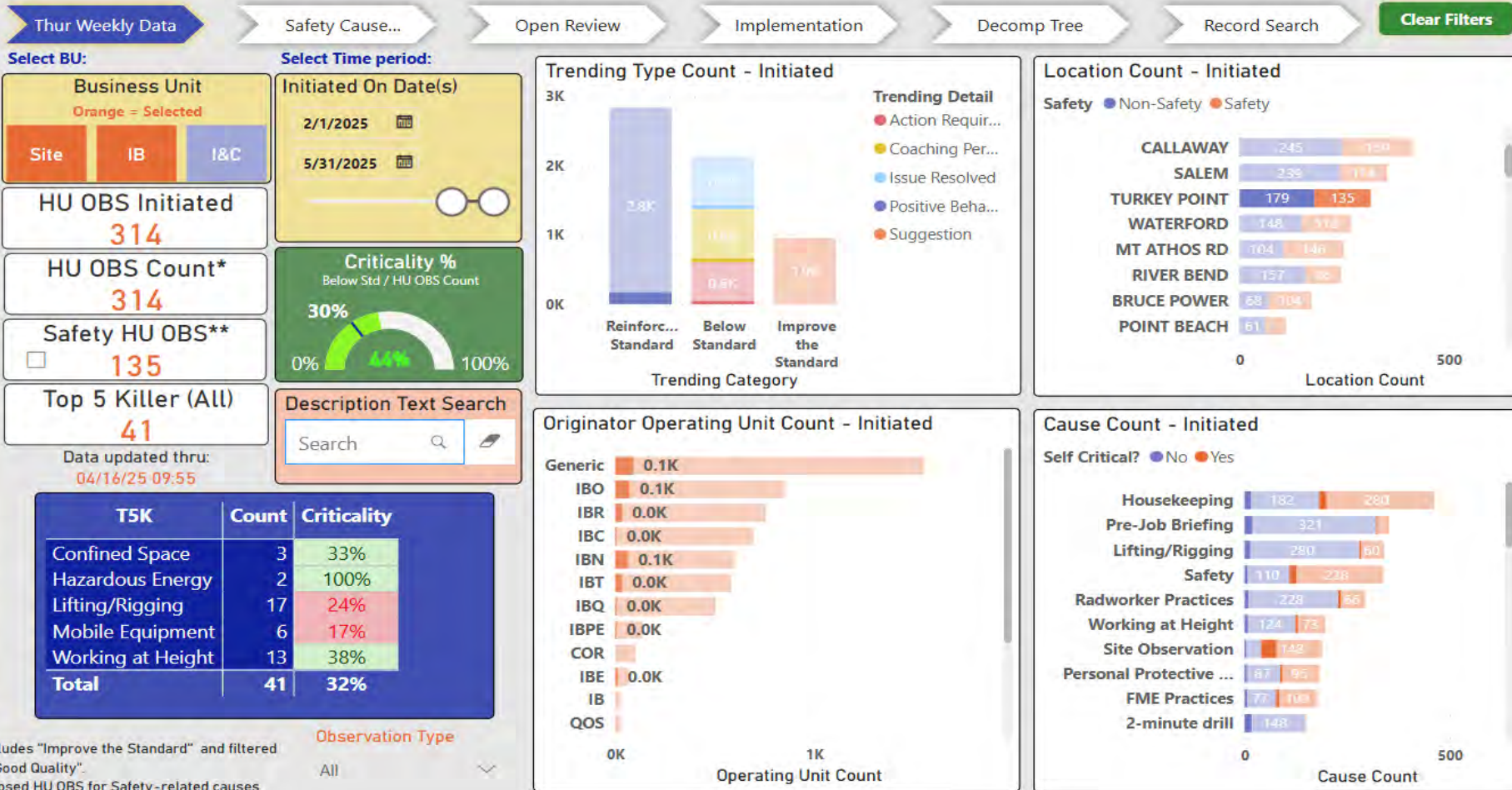
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Turkey Point 4R35

(3/1-4/4)

Work Scope	Safety	Quality	Performance	Delivery	Comments
I&C Qualified Safety Parameter Display System					S
					Q
					P
					D No VOC survey completed as of 5/21

Turkey Point



Work Scope

Turkey Point 4R35
(3/1-4/4)

▪ Refuel Services

- Pre-Outage
 - Long Handle Tool Checkouts
 - Rx Service Staging / Setup
- Outage
 - Disassemble / Reassemble Reactor
 - Disassemble / Reassemble Seal Table
 - Retract / Inset Flux Thimbles
 - Unlatch / Latch Drive Shafts
 - Remove / Set Upper Internals
 - Install/Remove Core Barrel
 - Offload / Reload the Core
 - Install / Remove CRDS
 - Disengage / Engage Flexureless Inserts
 - Perform FOSAR
 - Install / Remove Temp head
 - Insert Shuffle
 - Clean Studs

▪ RCP

- Replace (3) Flowserve NX seals
- Perform Motor PMs on (3) RCP motors
- Replace (1) RCP rotating assembly
- Contingency Tasks: Stuck Stud Removal, Case Machining, Diffuser Adapter CapScrew replacement

▪ BMV

- Perform an initial 'as found' exam of the bottom mounted nozzles/bottom head.
- Perform CO2 cleaning and a final exam in the second window.

▪ MRP-227

- Core Barrel Visuals: UFW/UGW OD/ID, LGW/LFW OD, Middle and Lower Axial welds, 100% OD/ID surfaces.
- Upper Internals visuals: CRGT LFW
- Clevis Bolt UT was removed from the scope

▪ Stearns Roger

- 4 Technicians for outage
- 4 Additional technicians for first 3 days of outage for corrective maintenance
- Pre-outage – Tx system pointer repair, inspections and PMS
- Outage – Perform routine PMs and checks on FHE, Rx side sheaves, main hoist sheaves/wire rope, aux hoist brake, remove FHE hoists for refurbishment in Lynchburg
- Support FHE during fuel movement

▪ **Steam Generator Services**

- Closures
 - Onsite Closure Refurb – complete
 - Remove/Install Primary Manways
 - Remove/Install Secondary Manways
 - Remove/Install Hand Holes/IPs
 - Install/Remove Nozzle Covers
- ECT - 12 GTs of full-length Array - Pending site bandwidth availability (100mb dedicated to Framatome)
 - RANGERS
 - NSAL Inspections
 - Plug Visuals
 - 100% Full Length Array
 - Plug and Stab as needed
 - Analysis, Tube Integrity, Data Management – All remote
- SSI
 - Steam Drum Inspections – All SGs
 - Pre-UBF Inspections – All SGs
 - Post Water Lance Baffle Plate and TTS Inspection
- Water Lance/UBF
 - Onsite UBF Refurb (site owned equipment) – 1/27 – 1/31
 - ALL SGs

- **Qualified Safety Parameter Display System (I&C)**
 - Installation of the QSPDS Upgrade IAW EC 295645, and the FPL Engineering Change process, EN-AA-205-1100.
 - Testing, commissioning, and system turnover will be performed through Pre-Operational Test Procedures (PTP) and the FPL turnover procedure.
 - All work executed on site will be controlled via the following documents:
 - Site Work Orders – Written in accordance with the EC 295645
 - Pre-Operational Test Procedures
 - 4-PTP-042.02A – QSPDS Channel A
 - 4-PTP-042.02B – QSPDS Channel B
 - Partial and Final Turnover Packages per EN-AA-206-1001
 - QSPDS is a two-channel system and both channels of QSPDS are required in Modes 1-3 per Technical Specification 3.3.3.3. Installation will be performed in Modes 4-6 or defueled.
- Installation will consist of modifications in the Control Room, Cable Spreading Room, and the Computer Room and is generally can be broken down into the following five phases:
 - Phase I – Pre-Outage Activities
 - Phase II – Outage Channel B QSPDS Replacement
 - Phase III – Outage Channel A QSPDS Replacement
 - Phase IV – DCS Equipment Installation
 - Phase V – FCP280 IACC to ICC Conversion
- Termination Totals
 - Copper Conductors
 - Determ / Relabel / Reterm: 600
 - New Terminations: 450
 - Fiber Optic
 - ST Connector Installs: 28
 - MTRJ Connector Splices (2 per connector): 60

ALARA

Turkey Point 4R35
(3/1-4/4)

	Goal (R)	Actual (R)
RFL	11.255	8.962

Condition Reports

CR	Description	Level	Org
CR-2025-0552	Motor failure on BMN skinny crawler track	Level 3	IBEN IBN Equip
CR-2025-0585	Purge leak on CRGT light ring	Level 3	IBEN IBN Equip
CR-2025-0586	Air compressor not building pressure properly	Level 3	IBEN IBN Equip
CR-2025-0624	NUFWIT Toolhead Assembly Shipped to Turkey Point 4 Missing a Component	Level 3	IBEN IBN Equip
CR-2025-0664	Z6 computer failed to boot up after re-starting	Level 3	IBEN IBN Equip
CR-2025-0673	Pointer on CRGT pole #7505269 broke easily during checkout	Level 3	IBEN IBN Equip
CR-2025-0723	Left drive track on skinny crawler not functioning properly	Level 3	IBEN IBN Equip
CR-2025-0743	PTZ Bowl Camera - No Pan function	Level 3	IBEN IBN Equip
CR-2025-0744	PTZ Bowl Camera - No Video and no Pan function	Level 3	IBEN IBN Equip
CR-2025-0745	SG Platform Monitor screen cracked after being dropped	Level 3	IBEN IBN Equip
CR-2025-0746	HD camera 7505768 functions stopped working properly.	Level 3	IBEN IBN Equip
CR-2025-0753	SUSI Impeller Broke	Level 3	IBEN IBN Equip
CR-2025-0758	PTZ Bowl Camera 5019617 can not zoom.	Level 3	IBEN IBN Equip
CR-2025-0760	Manipulator contacted the camera forcing the camera to be stuck in the down position.	Level 3	IBEN IBN Equip
CR-2025-0771	Stand made from T-slotted framing is missing hardware	Level 3	IBEN IBN Equip
CR-2025-0777	Lacing on 20' LGWIT broke, stopper and cable clamp not accounted for	Level 3	IBEN IBN Equip

Condition Reports

CR	Description	Level	Org
CR-2025-0867	SUSI Distribution Box possible Water Intrusion	Level 3	IBEN IBN Equip
CR-2025-0606	Brushes shipped with brushing tool do not fit on the motor shaft	Level 3	IBEO IBO Equip
CR-2025-0665	Hydrolaser will not energize	Level 3	IBEO IBO Equip
CR-2025-0803	HD RJ 8110 Video Noise	Level 3	IBEO IBO Equip
CR-2025-0738	Turkey Point M&TE Fluke Dropped and Damaged	Level 3	IBM PMO
CR-2025-0551	BMN mockup at Turkey Point is not suitable for Skinny Crawler operator training	Level 3	IBNA NDE Eng
CR-2025-0660	Skinny crawler fell off of component numerous times during BMN As-Founds	Level 3	IBNA NDE Eng
CR-2025-0755	BMN visuals "Skinny Crawler" needs to be redesigned	Level 3	IBNA NDE Eng
CR-2025-0967	Cables on 8086100 "Skinny Crawler" had a high rate of failure	Level 3	IBNA NDE Eng
CR-2025-0968	Connectors Y-cables and track cables for 8086100 "SKINNY CRAWLER" are not interchangeable	Level 3	IBNA NDE Eng
CR-2025-0815	Baffle Plate #7 was missed	Level 3	IBNN NDE S
CR-2025-0614	Contractor arrived on site with medical restrictions.	Level 3	IBNR Res Dev
CR-2025-0610	Steam Generator X-Probe bad data #836677	Level 3	IBNS SGS
CR-2025-0638	SG C Inspection Port Bolt/Bolt Hole Damage	Level 3	IBNS SGS
CR-2025-0751	Eddy Current probes exiting the wrong guide tube during examination	Level 3	IBNS SGS
CR-2025-0549	Core Barrel Guide Pin Brackets Degraded	Level 3	IBO OS
CR-2025-0563	NW Cable Bridge will not raise.	Level 3	IBO Os

Condition Reports

CR	Description	Level	Org
CR-2025-0835	Manipulator Crane Air Hose Reel Stopped Retracting During Core Reload	Level 3	IBO OS
CR-2025-0847	Flexureless Insert Tool Issues	Level 3	IBO OS
CR-2025-0851	Flexureless Insert Inner Housing Distorted	Level 3	IBO OS
CR-2025-0548	Seal Table Transition Tube Ferrule Fell Off.	Level 3	IBOP
CR-2025-0706	Foreign Material located on D6 CRGT housing	Level 3	IBOR
CR-2025-0752	Individual did not feeling well while working on Steam Generator Primary Platform	Level 3	IBOR
CR-2025-0762	Gaps in SFPBC Site Procedures following upgrade.	Level 3	IBOS
CR-2025-0763	Upgraded SFPBC Missing Slow Zones	Level 3	IBOS
CR-2025-0764	SFPBC Wireless Receiver Multiple Failures During Fuel Movement	Level 3	IBOS
CR-2025-0765	SFPBC Index Physical and Electronic Positioning Off in spent fuel pool	Level 3	IBOS
CR-2025-0768	Spent Fuel Bridge Crane Controls Human Performance vulnerability with the Controls layout.	Level 3	IBOS
CR-2025-0769	Spent Fuel Pool Bridge Crane Load Weighing System slow response time and hard to view.	Level 3	IBOS
CR-2025-0804	Turkey Point Unit 4 Reactor Side Transfer System Power Issue	Level 3	IBOS
CR-2025-0747	Damaged 3000A Breaker	Level 3	IBPE-P
CR-2025-0749	Turkey Point 4AA11 Overcurrent Relays Out of Calibration	Level 3	IBPE-P
CR-2025-0750	Swapping parts from install breaker to spare for installation during outage	Level 3	IBPE-P
CR-2025-0679	SG B Water Lance Dropped Nut	Level 3	IBQPIS

Turkey Point 4R35

(3/1-4/4)

Condition Reports

CR	Description	Level	Org
CR-2025-0578	Moist White Boric Acid Identified on BMI Penetration#6	Level 3	IBR
CR-2025-0878	Developer and Penetrant Residue Found on Pen #6 Nozzle	Level 3	IBR
CR-2025-0946	Weld Wire Not Shipped to NPC from site	Level 3	IBR
CR-2025-0478	Shipment did not meet Outage Shipping Plan	Level 3	IBT
CR-2025-0628	emergency medical number not called	Level 3	IBTEHS
CR-2025-0653	Crossing crud burst boundary	Level 3	IBTEHS
CR-2025-0724	Head mounted dosimetry not worn before working under vessel	Level 3	IBTEHS
CR-2025-0780	Some discrepancies were discovered with the Turkey Point 4R35 outage dose reports	Level 3	IBTEHS
CR-2025-0414	Supplier failed to meet PO requirement	Level 3	ICQU
CR-2025-0691	During PTP testing of QSPDS Unit 4 Train A, TCM G21PB8K3 showed a Flash test fail.	Level 3	ICTUE
CR-2025-0517	Missing unit - 3501TN2 (P/N 1950011-001), S/N B23Z0CX1	Level 3	ICTUM
CR-2025-0670	Different equipment serial numbers on the same Hydrolaser unit	Level 4	IBE Equipment
CR-2025-0697	CRGT guide card wear measurement software experiencing slowdown when saving files	Level 4	IBNA
CR-2025-0767	Offsite Personal Health Event	Level 4	IBNN
CR-2025-0544	Personal Medical	Level 4	IBNR
CR-2025-0617	Broken SDI Input on Monitor	Level 4	IBNS
CR-2025-0633	Near Miss driving to work	Level 4	IBNS

Condition Reports

CR	Description	Level	Org
CR-2025-0675	LH NTL Guide 5507076 intermittent loss of camera	Level 4	IBNS
CR-2025-0778	Individual felt ill and went to site medical	Level 4	IBNS
CR-2025-0981	Turkey Pt. 4 Array Standards Difficulty with Calibration	Level 4	IBNS
CR-2025-0411	Employee had vehicle accident	Level 4	IBO
CR-2025-0501	High incidence of Clearance Holder / Owner Test failures at Turkey Point	Level 4	IBO
CR-2025-0652	Hit Shin on Tow hitch in safe walk path	Level 4	IBO
CR-2025-0823	Personal Medical - Employee Back Pain	Level 4	IBO
CR-2025-0695	Individual Reported back pain upon exiting containment	Level 4	IBOR
CR-2025-0754	Individual had heat stress while working under vessel at Turkey Point unit 4	Level 4	IBQP
CR-2025-0799	Employee personal medical incident at Turkey Point	Level 4	IBQP
CR-2025-0471	Paperwork discrepancy between incoming and outgoing dimension of coupling face to main flange.	Level 4	IBRP

Turkey Point 4R35

(3/1-4/4)

VOC Surveys

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
VOC 2025-0090	2021-2026 Turkey Point RCP Improvement	James Fleming	Project Manager	No	SCRIVENER, Jared	10	Quality, performance, safety. Communication & scheduling. Keeping up with parts & equipment.	Training, inventory & attention to detail.
VOC 2025-0080	Sp25 Turkey Pt. 4R35 SG Services	Colleen Phillips	Project Manager	No	FRIES, Gary	10	The Steam Generator Team demonstrated a strong familiarity with the PTN site organization and consistently employed a self-help approach whenever feasible.	The Steam Generator Team must enhance their care of M&TE equipment. Proactive measures should be implemented to ensure site M&TE is protected from contamination
VOC 2025-0079	Sp25 Turkey Pt. 4R35 SG Services	Liz Mohan	Project Manager	No	FRIES, Gary	10	Steam generator team had a wealth of experience and knowledge at PTN and was able to work thru challenges and execute large scope of work on critical path.	Steam generator team on large scale generator scope needs to better understand work packages/NEO/DWP/MRs and look at providing technical support to free up generator Outage Managers from performing all this work and falling behind on paperwork preparation/clearances/closeouts.
VOC 2025-0078	Spr25 Turkey Pt. 4R35 NDE	Adriana De La Torre	Other	No	PALLIN, Juan	10	Communication with the OCC. Refueling, SG and NDE teams	Crane Support. Expertise only on day shift.

Turkey Point 4R35

(3/1-4/4)

VOC Surveys

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
VOC 2025-0077	Sp25 Turkey Pt. 4R35 Refuel	Stephen Moore	Other	No	PALLIN, Juan	10	Rx vessel lower internals lift S/G Eddy Current Testing Rx vessel repair Critical path communications	Predictability on long duration schedule items i.e. Rx vessel ISI, S/G ECT, and RCP RA It would benefit FPL to have access to Framatome logs
VOC 2025-0068	Sp25 Turkey Pt. 4R35 Refuel	Anthony Oakes	Other	No	NORDIN, Clay	9	Emergent support P6. tool fabrication for guide tubes, fluxureless insert coupling.	Communications and have every camera in world except for born scope. Drive shaft latch tool proficiency, seems like we are always getting proficiency on FPL dime.
VOC 2025-0060	Spr25 Turkey Pt. 4R35 NDE	Donna Slivon	Project Manager	No	TOMLIN, Ken	10	Responsiveness to emergent issues-the NDE team transitioned smoothly to support the emergent BMN repair activities. The ability to develop new techniques and tools-Framatome onsite engineer designed and installed brushes and mounts to aid in keeping the crawler's magnetic wheels clean. Knowledgeable people-the team had a balanced crew with both seasoned personnel and less seasoned personnel.	Again, it is strongly recommended that we design and build a new crawler for BMN exams that incorporates CO2 cleaning, cable management system, increased dependability and improved sweeper system.

OM	J. Morgan / J. Millsaps
SS	Ben Grambau
PM	Mertis Peters (SGS)
PM	Adam Pierce (I&C)
PE	Kent Gebetsberger
KM	Albert Kluttz

Calvert Cliffs 2R26

(2/24-3/17)

Work Scope	Safety	Quality	Performance	Delivery	Comments
SGS ECT, WL, SSI, MW, NDs					<ul style="list-style-type: none"> Zero OSHA Recordables and Zero First Aids Heat Event – ECT technician became overheated and dehydrated, leading to chest pains (0609) Report Only – Individual stepped in a small open hole (0416) S Level 1 PCE – Wiping sweat using hood in a high contamination work environment, leading to a PCE and ingestion of radioactive material (0534) Vehicle Accident – Individual was traveling to report on shift (0623) SSI dose estimate was 1 rem over the dose estimate due to more loose parts than anticipated and higher dose rates
					<ul style="list-style-type: none"> Q Could not fully insert plug after stabilizer installation (0608) FOAK deck plate for UBend inspection would not fit through secondary manway (0659) Note: Deck plate was developed to improve the UBend inspection process but was not part of the contract. Inspection was completed using the regular method.
					<ul style="list-style-type: none"> P No human performance events
					<ul style="list-style-type: none"> ECT inspection was completed earlier than scheduled, but closeout took longer due to the high number of loose parts and plant requesting maximum skips D Successfully tested the 610 Ultra Flex Bobbin Probe on low row UBends Site recognized the SSI team in the outage newsletter for the number of loose parts removed from generators

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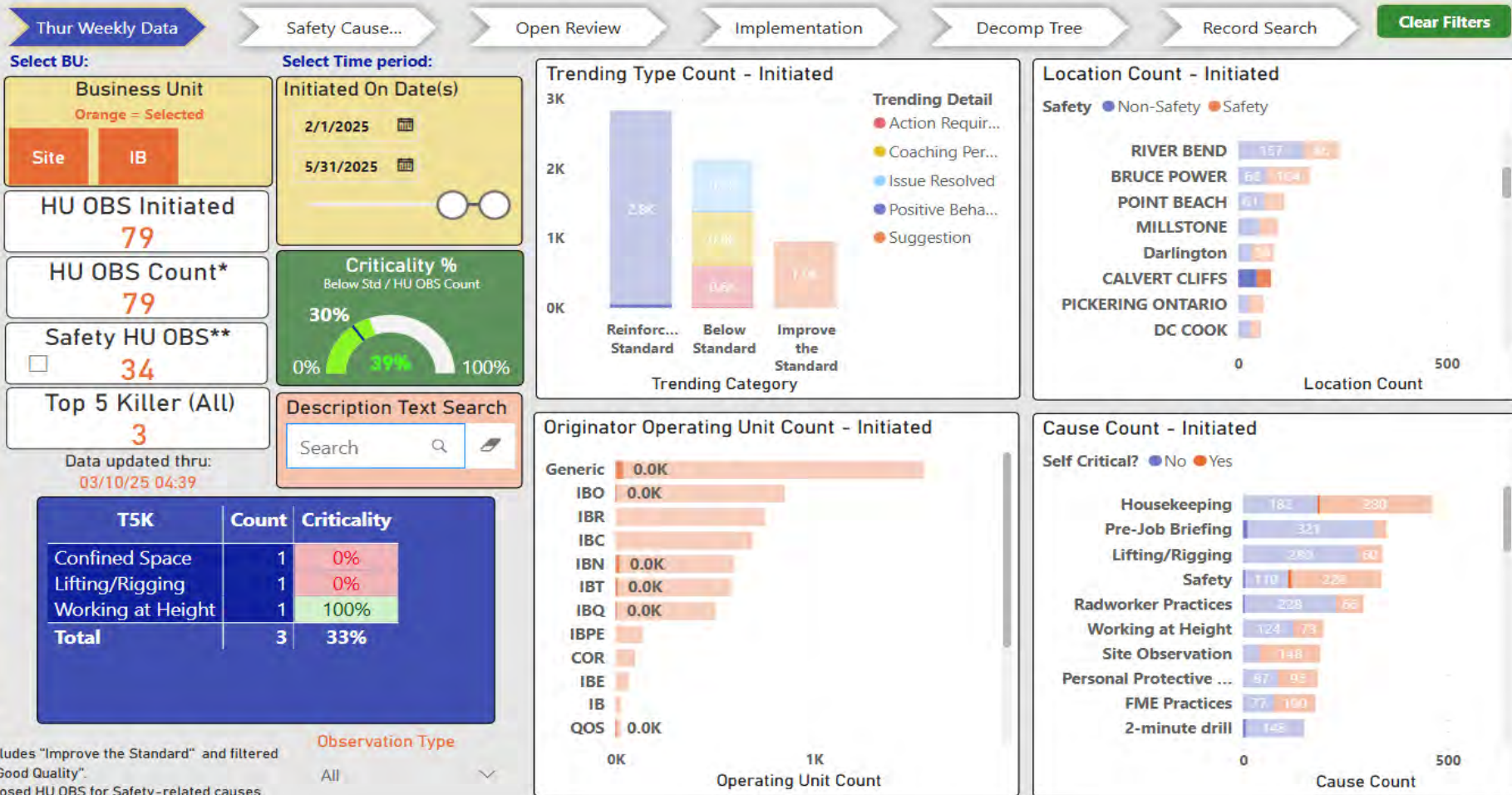
Calvert Cliffs 2R26

(2/24-3/17)

Work Scope	Safety	Quality	Performance	Delivery	Comments
I&C Digital Control Element Drive Control System					S Zero safety events reported. Safety was emphasized both by the Framatome Team and the 26-member Allied Team (seconded).
					Q DCEDCS Installation and Commissioning were performed with good quality in accordance with CCNPP Quality Program and under CCNPP Work Orders (build on Framatome instructions). Markups to guiding documents were handled in a controlled fashion using site processes and are being incorporated for Unit 1.
					P DCEDCS Installation was performed in accordance with overall schedule (approximately 12 days). Captured lessons learned on timing of interim activities, particularly the time to modify customer cabinets was longer than scheduled. Commissioning went to schedule, however, more time needs to be allotted for DCEDCS tuning prior to customer turnover to avoid nuisance warnings/alarms.
					D No VOC survey completed to date (pending resolution of some follow up system behavior items). Delivered equipment, spare inventory, and tools were generally adequate. Lessons learned captured on additional tools (including 5S of tool inventory) to make U1 work more efficient.

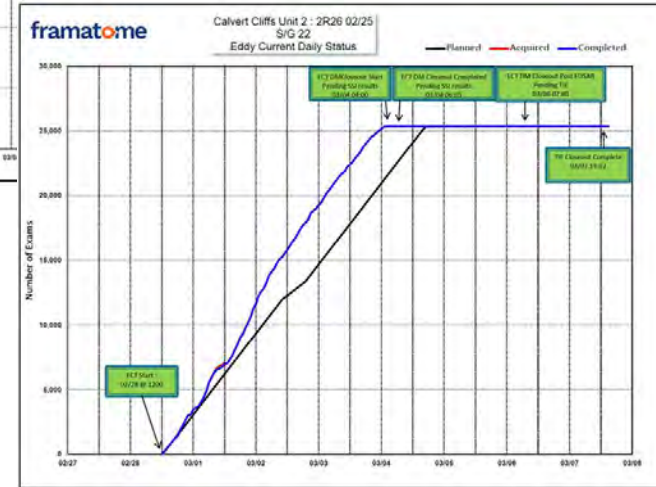
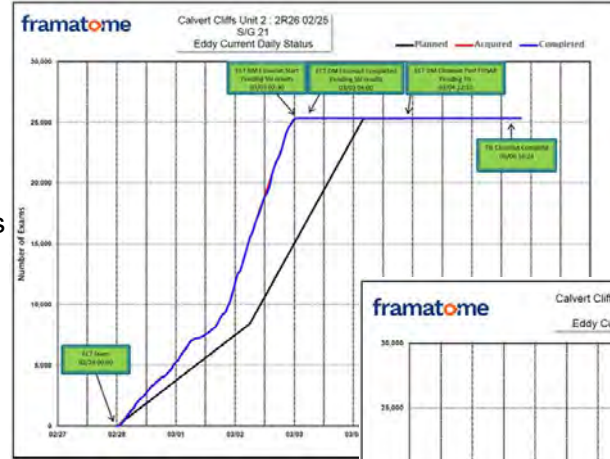
Calvert Cliffs

Human Performance Observation Dashboard



■ Steam Generator Services

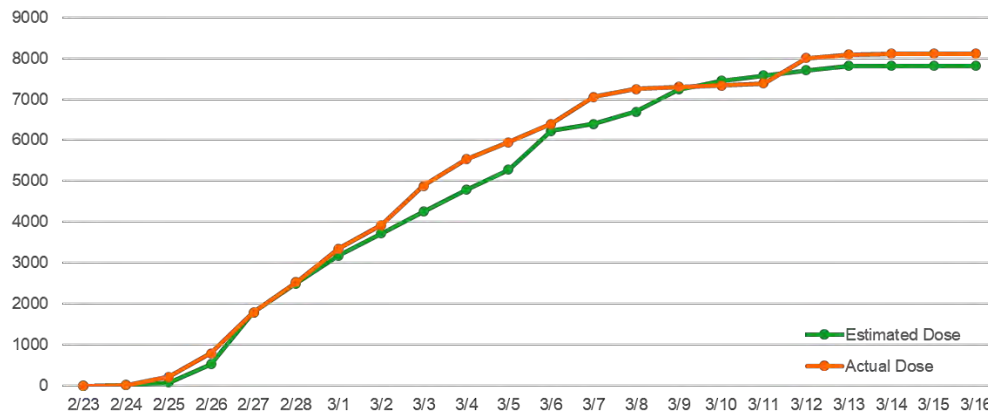
- Remove/Install Primary Manways (4)
- Remove/Install SG 21 Secondary Manways (2)
- Remove/Install Hand Holes
- Install/Remove Nozzle Dams/Monitor Nozzle Dams
- ECT – ZR110s
 - NSAL Inspections
 - Plug Visuals
 - 100% Full Length Bobin
 - 100% TTS Array
 - Plug and Stab as needed
- SSI Steam Drum Inspections – SGS 21
- SSI/FOSAR of TTS on SG 21 and 22
- Water Lance SG 21 and 22



Dose Report

Calvert Cliffs 2R26
(2/24-3/17)

Unit 2- R26 S/G Daily Dose



Primary Activities- ALARA Plan	RWP	Exposure GOALS	Actual Exposure YTD	Percent %
Manways - 25R-031	710	867	953	110%
Stage / Remove Misc. Equip.- 25R-032	703	1450	1045	72%
Nozzle Dams - 25R-033	704	665	556	84%
ECT / Tube Repair - 25R-034*	705	1976	1706	86%
Secondary Side Insp. - 25R-035**	706, 7, 8 & 11	2860	3852	135%
TOTALS:		7818	8112	104%
2025 (PCEs) (Goal = 0)	1			

Condition Reports

CR	Description	Level	Org
CR-2025-0413	MPGM Firmware Issue Identified Following Shipment	Level 3	
CR-2025-0492	Cane camera LED charging USB cable connector broken off	Level 3	IBEN
CR-2025-0553	Bad data in instrument S/N 87	Level 3	IBEN
CR-2025-0557	Calvert Cliffs MIZ-80 instrument S/N 34 bad data	Level 3	IBEN
CR-2025-0558	Calvert Cliffs MIZ-80 instrument S/N 52 bad data	Level 3	IBEN
CR-2025-0577	Bad data Miz80	Level 3	IBEN
CR-2025-0583	Waterlance wilden pump diaphragm leak	Level 3	IBEN
CR-2025-0598	Water lance Control Box Failure	Level 3	IBEN
CR-2025-0661	Roll Control Box 08 Free Run Torque Out of Spec	Level 3	IBEN
CR-2025-0659	Deck plate for the Steam Generator UBend tool will not fit through manway	Level 3	IBNA
CR-2025-0416	Worker stepped in small hole (No Injury)	Level 3	IBNS
CR-2025-0546	SG22 HL broken probe head in bowl	Level 3	IBNS
CR-2025-0608	Can not fully insert plugs after Stabilizer installation	Level 3	IBNS
CR-2025-0554	Missing PT Reports for BWXT Plugs	Level 3	IBPE-P

Condition Reports

CR	Description	Level	Org
CR-2025-0534	Steam Generator eddy current platform worker received a level 1 PCE	Level 3	IBQP
CR-2025-0412	Calvert Cliffs SG cold trailer and SSI trailer search and seal issues	Level 3	IBT
CR-2025-0609	An ECT technician became overheated and was escorted out of containment.	Level 4	IBNS
CR-2025-0623	Framatome employee involved in vehicle accident reporting to work. No personal injury.	Level 4	IBQPIS

OM	Tim Brinkman
SS	Jonathan Scruggs
PM	Jon Black
PE	Kent Gebetsberger
KM	Geb Broman

Susquehanna U2R22

(3/24-4/21)

Work Scope	Safety	Quality	Performance	Delivery	Comments
BWR Refuel Services Under Vessel					Zero OSHA Recordables or First Aids Report Only – Muscle strain due to refuel floor being slippery (0597) Report Only – Minor abrasion to shin when performing crane walkdown on upper platform (1033) S Vehicle Accident – Individual involved in accident (0830) 5 PCEs {2 Rad worker (Level I); 3 Non-Rad Worker (2 Level I, 1 Level III)}
					Q Equipment issues as documented in CRs
					During reassembly, identified elongation rods were missing from RPV Head Studs 75 & 76 (1136) P PU&A issue – When re-assembling the RPV Head Vent spray, lower temporary travel blocks were left inserted during the flange mating and torquing process (1152) – <i>Site Department Crew Clock Reset</i>
					D Refuel Floor finished 112.1 hours behind Rev-0 based on completion of cavity shield block installation No VOC as of 6-9-25

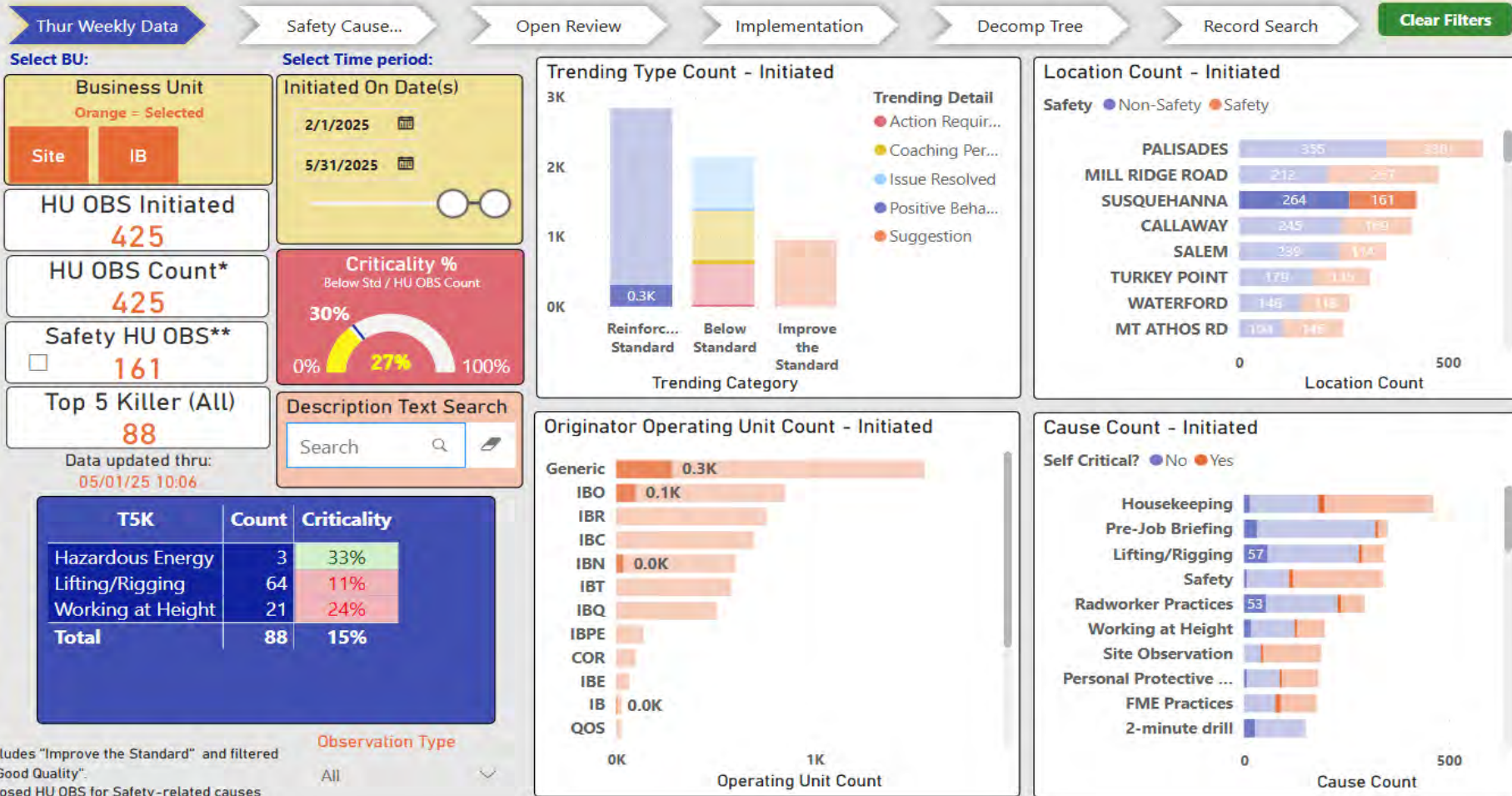
OM	Tim Brinkman
SS	Jonathan Scruggs
PM	Jon Black
PE	Kent Gebetsberger
KM	Geb Broman

Susquehanna U2R22

(3/24-4/21)

Work Scope	Safety	Quality	Performance	Delivery	Comments
NDE IVVI					Report Only – Pinched thumb in KAACK box door (0916) Report Only – Punctured finger from wire rope of restraint plate cable for telescoping pole (0924) S Vehicle – Rental car hit by adjacent car in parking lot NDE dose 1.976 (G) vs. 3.409 (A) = 172.25% of goal
					Q Equipment reliability issues
					P No human performance issues
					D VOC = 8 (1 completed) – Inspection quality superior to previous inspections – lost points due to equipment reliability
NDE Core Shroud UT		White			S No safety issues
					Q Equipment reliability issues
					P No human performance issues
					D VOC = 7 (1 completed) - coverage on some welds < what was achieved in the past. Some issues with equipment reliability

Susquehanna



▪ Refuel

- Equipment Mobilization
- Preventative Maintenance
- Main Steam Line Plugs
- Stud Tensioner Functional
- Reactor Disassembly / Reassembly
- Fuel Movement Teams
 - Shuffle One
 - Shuffle Two
- 40 Double Blade Offload
- CRB Exchanges – 32
- 8 LPRM Exchanges
- Guide Tube Vacuuming 32 locations + 4 additional
- Refuel Floor Cleanup and Equipment
- Upper/Lower Cavity Seal Replacement – Recently Removed from Schedule

▪ Under Vessel

- UV Area Prep
- Tip Tubing Removal
- SOS Removal/Installation
- PIP Removal/Installation
- 20 CRDM Exchanges
- LPRM Support
- 8 LPRM Connectors
- 1 PIP Connector
- 1 IRM Connector
- 1 SRM Drive Cable Support
- UV Area Demob

▪ IVVI

- Hawkeye Telescoping Pole and UCIT IVVI
- Manual IVVI
- Over Core IVVI and Dry Tube Visual Inspection
- Dryer and separator IVVI

▪ Core Shroud UT

- PA UT Examination of H1- H7 Core Shroud horizontal welds as well as select vertical welds (4,5,12,13,14,15,16,17,24,25)

Metric	Goal	Actual
Industrial Safety	0 Injuries 0 OSHA Recordable 0 HU Performance Events	0 First Aid Injury 0 OSHA Recordable 1 HU Event (N7 Nozzle Flange)
Security	0 Security Logable Events	0 Security Logable Events
Radiological Safety (Dose Goals)	RFF Dose Goal 6.285 R UV Dose Goal 9.307 R NDE Dose Goal 1.976 R	RFF Dose 5.381 R UV Dose 5.702 R NDE Dose 3.409 R
PCEs	0 PCE's	5 PCE's • 2 Rad worker (Level I) • 3 Non-Rad Worker (2 Level I, 1 Level III)
Outage Duration	29 days	31.93 days breaker to breaker 18.55 days breaker to pipe tight

(2) Level I – Attributed to UV CRD exchange. Both attributed to protective clothing and not Rad Worker practices. Site AR-2025-05252 & AR-2025-05239. Does not count against the PCE Goal.

(2) Level I – Attributed to undressing process – still under investigation but likely will be Rad Worker Practices. Site CR-2025-05265.

(1) Level III – Not attributed to rad worker practices. Site CR 2025-06463

Condition Reports

CR	Description	Level	Org
CR-2025-1136	Elongation rods were not installed in studs 75 & 76	Level 3	IB Services
CR-2025-0786	Hawkeye Uninterruptible Power Supply not working at Susquehanna 2R22	Level 3	IBEN IBN Equip
CR-2025-0909	Hawkeye Telescoping pole cylinder out of alignment	Level 3	IBEN IBN Equip
CR-2025-1030	Hawkeye UCIT Mast Trolley Motor 7504857 failed to function as expected	Level 3	IBEN IBN Equip
CR-2025-1032	Air leak Identified on Long X-Axis Tool	Level 3	IBEN IBN Equip
CR-2025-1004	Dryer ID Tool Elevator Belt Slipping	Level 3	IBEN IBN Equip
CR-2025-0910	Hawkeye Ahlberg HD Camera failed to function as expected due to Bad Camera Cable	Level 3	IBEO IBO Equip
CR-2025-0798	RJ CCU Not Working Correctly	Level 3	IBEO IBO Equip
CR-2025-0928	RJ 8110 7001435 Tilt failed to function	Level 3	IBEO IBO Equip
CR-2025-0989	Undervessel Tooling deficiencies for Susquehanna 2RIO22	Level 3	IBEO IBO Equip
CR-2025-0927	Core Shroud UT Tool cannot reach welds V25 and V24	Level 3	IBNA NDE Eng
CR-2025-1012	Shroud UT tooling needs overall design review	Level 3	IBNA NDE Eng
CR-2025-1014	LBST Mast contacting shroud lugs in H3 configuration	Level 3	IBNA NDE Eng
CR-2025-0958	Hawkeye Arm Issue	Level 3	IBNA NDE Eng
CR-2025-0923	There is no remote emergency stop capabilities with PC-104 controllers	Level 3	IBNA NDE Eng
CR-2025-0921	Hawkeye telescoping pole continued to run without command from operation software	Level 3	IBNA NDE Eng

Condition Reports

CR	Description	Level	Org
CR-2025-1098	Core Shroud Trolley Mechanical Failure	Level 3	IBNA NDE Eng
CR-2025-0832	Hawkeye ring support feet measurements did not meet acceptable criteria per Operating Instruction 03-9130700-015	Level 3	IBNA NDE Eng
CR-2025-0990	PC104_24 Waring 24V Power Loss	Level 3	IBNA NDE Eng
CR-2025-1031	Two Motor challenges (Roll, Tilt) impacted install duration of UCIT IVVI Arm	Level 3	IBNA NDE Eng
CR-2025-0917	Unable to consistently pipe out composite video on Single Mode Fiber	Level 3	IBNN NDE
CR-2025-0985	H1 tool probe orientation was incorrect	Level 3	IBNN NDE
CR-2025-0943	Core Shroud UT Probe Failure	Level 3	IBNN NDE
CR-2025-0984	Steam Dryer ID Inspection Tool Elevator Belt Broke	Level 3	IBNN NDE
CR-2025-0956	Susquehanna Control Rod Blade Location Issue	Level 3	IBO Outage
CR-2025-0797	New CRB mockup fabricated for this outage is not to SPEC	Level 3	IBO Outage
CR-2025-1152	Procedure use and adherence issue	Level 3	IBO Outage
CR-2025-0926	Flag tool wedge in lattice of CRB 14-27	Level 3	IBO Outage
CR-2025-1079	Radioactive Shipping Container Degradation	Level 3	IBT Op Support
CR-2025-1059	As identified in HU 2025-4996, evaluate if utilizing Vari-Desks (allowing personnel to stand) at operator stations will improve field conditions and performance.	Level 4	IBE Equipment
CR-2025-0761	Junction Box 7502840 V2 Power Failure	Level 4	IBEN IBN Equip

Condition Reports

CR	Description	Level	Org
CR-2025-1003	Challenges to keep all IVVI Stations populated with "Ready-Ready" HD RJ Systems	Level 4	IBEN IBN Equip
CR-2025-1000	Loss of v-block latch functionality on the shroud cart	Level 4	IBEN IBN Equip
CR-2025-0880	Inadequate Direction in RDSIT OI for use of 4" Floats on Camera Cables	Level 4	IBEN IBN Equip
CR-2025-0887	Accurate IVVI Software not working correctly for the Dryer OD exam at Susquehanna	Level 4	IBEN IBN Equip
CR-2025-1056	As identified in HU 2025-4979, evaluate if the UCIT mast assembly should have stiffeners as an enhancement to the current design.	Level 4	IBEN IBN Equip
CR-2025-0937	Susquehanna RFF fiber length	Level 4	IBEN IBN Equip
CR-2025-1054	As identified in HU 2025-4976, evaluate the Ahlberg camera hard stop for potential design and/or process improvements	Level 4	IBEN IBN Equip
CR-2025-0881	Shroud tool OI does not contain the correct cart encoder count value	Level 4	IBEN IBN Equip
CR-2025-0918	Single Mode Fiber does not support piping out of Diakont D40 system video feed.	Level 4	IBEN IBN Equip
CR-2025-0879	Loose Rubber Foot found on Hydrolaser 7004135 Foot Pedal	Level 4	IBEO IBO Equip
CR-2025-0916	Employee Pinched Thumb in KNAACK Box Door	Level 4	IBNN NDE
CR-2025-0924	Employee punctured finger from wire rope of the cable restraint plate for the Telescoping Pole	Level 4	IBNN NDE
CR-2025-1151	Site Generated CR "2025-06622 Late Review of FME Impacting Crit Path U2-22R10"	Level 4	IBNN NDE
CR-2025-1095	Hawkeye cables submerged in water solution during decon	Level 4	IBNN NDE
CR-2025-0830	Framatome employee involved in an automobile accident	Level 4	IBO Outage
CR-2025-1033	Scrapped shin	Level 4	IBO Outage
CR-2025-0827	Susquehanna U2 Monrorail hoist wrong cable installed by utility	Level 4	IBOB BWR

VOC Surveys

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
VOC 2025-0087	2025S SUSQUEHANNA 2R22 NDE SERVICES	James Cunningham	Technical Lead	No	DOWNS, Mitchell	7	Responsive to questions and clarifying any issues that may arise during the course of the inspections Tooling seemed to be efficient when it was operating	Coverage on some welds less than what was achieved in past Some issues with equipment reliability
VOC 2025-0072	2025S SUSQUEHANNA 2R22 NDE SERVICES	James Cunningham / Fred Habib	Technical Lead	No	BALDWIN, Ricky	8	Quality of exams Personnel knowledge	Equipment reliability including contingencies of complete spare system ready to be installed if tooling has to be removed for repair. Camera availability and personnel experience to perform manual IVVI

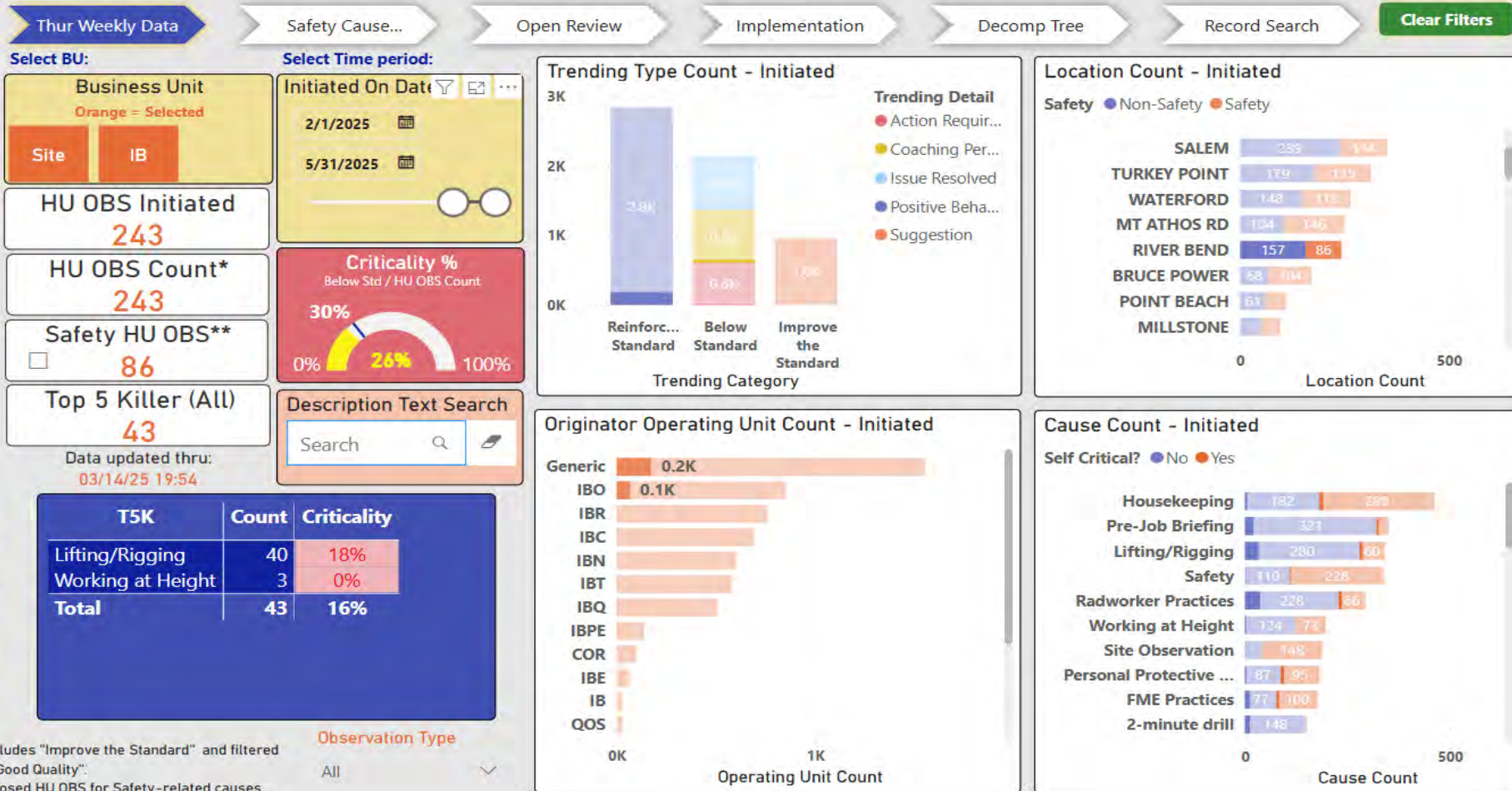
OM	Robbie Peek
SS	Jonathan Scruggs
PM	Ridgely Burge
PE	Kent Gebetsberger
KM	Albert Kluttz

River Bend RFO23

(2/11-3/1)

Work Scope	Safety	Quality	Performance	Delivery	Comments
BWR Refuel Services Under Vessel					Report Only – Pulled muscle in groin area (0409) Report Only – Working while dehydrated (0496) S Personal Medical – Dehydration related to taking OTC meds (0495) PCE (Level 2) – Back of the head during UV activities (0419) Dose goal met
					Q Damaged network switches in undervessel (0522) RFB Frame Mounted Hoist cable fully too long to allow CRBs to clear cattle chute – work delayed until hoist wire rope could be cut to length (non-FRA issue) (0476)
					P Dropped wrench in bellows during RPV head detensioning Supervisor stepping out of role and retrieving tool without an FME plan (0406) Fuel moves stopped due to communication/ coordination issue with IFTS transfers (0408) A wall hanger was dislodged by the refueling floor crew as they were retrieving a double blade guide (0432) Contractor badge terminated due to open criminal traffic offense (0399) Contractor unable to gain unescorted access (0398)
					D Rev zero schedule start of Disassembly thru Core Verification was 15 days and 7.5 hours.(367.5 hours) vs. actual performance of this scope of work was 18 days and 21.9 hours.(453.9 hours) VOC = 7.6 Avg. (3 completed)

River Bend



River Bend – Combined w/ Entergy Data

Thur Weekly Data

Decomp Tree

Clear Filters

Select BU:

Orange = Selected

Entergy

IB

IB-Gen

Select Time period:

Initiated On Date(s)

2/1/2025

5/24/2025

HU OBS Initiated

287

HU OBS Count*

265

Safety HU OBS**

88

Criticality

25%

23%

100%

Top 5 Killer (All)

43

T5K

Count

Criticality

Lifting/Rigging

40

18%

Working at Height

3

0%

Total

43

16%

Observation Type

All

Originator Operating Unit Count

Entergy

Generic

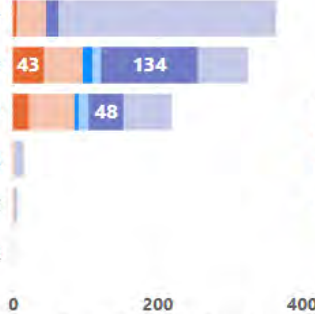
43

IBO

IBR

IBE

IBQ



Trending Category

Below Standard

Improve the Standard

Reinforces Standard

Operating Unit Count

Location Count

Org BU Entergy IB IB-Gen

Waterford

257

168

136

River Bend

75

190

ANO

GGN

No Data

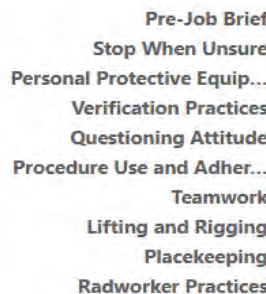
TCCS

Location Count

500

Entergy Cause Count

Trending Category Below Standard Reinforces Standard



Cause Count

Framatome Cause Count

Self Critical? Yes No



Cause Count

*Excludes "Improve the Standard" and filtered on "Good Quality".

** Closed HU OBS for Safety-related causes

▪ BWR Refuel

- Equipment Mobilization
- Preventative Maintenance
- Main Steam Line Plugs
- Carousel Functional
- Stud Tensioner Functional
- Reactor Disassembly / Reassembly
- Nozzle flushing
- o Fuel Movement Teams
- Shuffle One
- Shuffle Two
- Control Rod Blade
- CRB Exchanges
- Guide Tube Vacuuming
- All open guide tubes
- Refuel Floor Cleanup and Equipment

▪ Under Vessel

- CRD Receipt Inspection
- Carousel Preventative Maintenance
- Install Communications and Cameras
- TIP Tubing removal/replacement.
- LPRM Detector removal/cutup/replacement
Up to 26 LPRMs, 2- IRMs
- IRM/SRM Gearbox PMs
- Motor Module SRM/IRM Replacement
- Shoot-Out Steel (SOS)
removal/replacement/inspection
- CRD exchange setup
- PIP Removal – Up to 20
- CRD Uncoupling – Up to 22
- Control Rod Drive Mechanism (10) CRDMs
- PIP replacements - Approximately 15
- PIP Connector Replacements
- TIP Indexer Replacement
- Load out exchanged CRDs

	Goal	Actual	% Goal
RFL	26.888 R	13.231 R	51.1%
UV	13.500 R	13.504 R	100%

Undervessel Dose accrued was Impacted by the following issues:

- 2/15 & 2/16 Elevated dose rates in subpile room due to hot particle while cutting LPRMs
- 2/21 Delta suit failure undervessel
- 2/22 Replacing unplanned CRDM O-ring
- 2/23 Hot Particle recovery
- 2/24 Stuck IRM F Recovery
- Additional PIP replacement scope
- Additional IRM / SRM Troubleshooting

Condition Reports

CR	Description	Level	Org
CR-2025-0408	fuel moves stopped due to communication/coordination issue with inclined fuel transfer system	Level 3	IBOB
CR-2025-0495	Individual dehydrated	Level 4	IBOB
CR-2025-0496	Working Dehydrated	Level 4	IBOB
CR-2025-0409	Pulled muscle when stepping over conduit	Level 4	IBOB
CR-2025-0419	PCE during Undervessel Work at RBS	Level 3	IBOB
CR-2025-0406	Communication/Retrieval of FME Below Standards	Level 3	IBOB
CR-2025-0452	Potential Fatigue Violation	Level 3	IBTBP
CR-2025-0432	A wall hanger was dislodged by the refueling floor crew as they were retrieving a double blade guide.	Level 3	IBOB
CR-2025-0399	Contract Employee's Unescorted Access Removed	Level 4	IBO
CR-2025-0398	Contract Worker Unable to Gain Unescorted	Level 4	IBO
CR-2025-0354	Broken DVR's	Level 4	IBEO
CR-2025-0522	Damaged network switches in undervessel	Level 4	IBEN
CR-2025-0476	RBS Frame Mounted Hoist Cable too long for Combo Tool Use	Level 3	IBOB

VOC

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
2025-0082	Refuel Services	Ralph McKean	Supervisor, Refuel Services	No	Ridgely Burge	8	Red book program is really good – We liked to see the consistent use Digital Outage Tool Kit is also a great tool	Updated tooling
2025-0083	Refuel Services	Mike Sharlow	Sr. Project Manager, Refuel Services	No	Ridgeley Burge	8	Transition between activities Engagement and prep once onsite, very communicative on needs, etc.	Being more engaged during pre-outage preps prior to site arrival, Action Item calls engagement. Working on the “One-Team” mindset (in regards to the Hi-tech/Framatome gap)
2025-0081	Refuel Services	Richie Boyd	Supt. Fleet Refueling Services, Outage Services	Yes	Robert Peek	7	Transitions, Preparation, and look ahead. Adaptability	Improve the relationship between Framatome and Hi-Tech

OM	Paul Searfoorce
SS	Ben Grambau
PM	Ridgely Burge
PM	Chris Sweet (RTDR)
PE	Andy McFadden
KM	Albert Kluttz

Waterford 3RF26

(4/26-5/21)

Work Scope	Safety	Quality	Performance	Delivery	Comments
PWR Refuel					<p>S Zero OSHA Recordables or First-Aids Report Only – An individual working on top of the Mirror Insulation lost their balance and grabbed a rope to stabilize themselves. The individual felt a twinge in their hand and was taken to the site nurse.</p> <p>1 Personal Medical (no CR)</p> <p>2 Vehicle Accidents – (1) Individual taken to hospital and released (1176); (1) individual fell asleep behind the wheel (1419)</p>
					<p>Q 0 FTQ Issues HJTC Operability impacted by leaking CEDM fan oil on cable connections (legacy issue) that affected plant start up</p>
					<p>P No human performance issues Strong participation in the Hu Observation Program</p>
					<p>D Optimization of schedule allowed team to recover time lost to Polar Crane Operability and Personnel Air Lock OOS Window 3 and 6 ahead of schedule 84 Lessons Learned Captured for Future Improvements 7 hrs gained due to crew proficiency during ICI's removal & cut up. 6.5 hrs gained due to crew proficiency & excellent equipment performance during core reload 3.13 hrs gained due to proficiency during CEA Coupling</p>

OM	Paul Searfoorce
SS	Ben Grambau
PM	Ridgely Burge
PM	Chris Sweet (RTDR)
PE	Andy McFadden
KM	Albert Kluttz

Waterford 3RF26

(4/26-5/21)

Work Scope	Safety	Quality	Performance	Delivery	Comments
CRR Resistance Temperature Detector Replacement					<ul style="list-style-type: none"> Zero OSHA Recordables, First-Aids, or Near Miss <p>S</p> <ul style="list-style-type: none"> Dose = 1933 mr (G) vs. 1384 mr (A) No PCEs
					<ul style="list-style-type: none"> Waterford RTD Nozzle 112 being replaced appeared to be bent (as-found condition) <p>Q</p> <ul style="list-style-type: none"> The RTD Nozzle 112 thermowell in the replacement nozzle did not pass through the new nozzle bore following nozzle weld-in.
					<p>P</p> <ul style="list-style-type: none"> No human performance events
					<ul style="list-style-type: none"> EDM took 24 hours, scheduled to be 13 hours <p>D</p> <ul style="list-style-type: none"> 24 hour delay to plan and implement nozzle re-weld to allow thermowell to fully pass in

Waterford

Thur Weekly Data

Safety Cause...

Open Review

Implementation

Decomp Tree

Record Search

Clear Filters

Select BU:

Business Unit

Orange = Selected

Site

IB

HU OBS Initiated

266

HU OBS Count*

266

Safety HU OBS**

118

Top 5 Killer (All)

64

Data updated thru:
05/22/25 07:52

Select Time period:

Initiated On Date(s)

2/1/2025



5/31/2025



Criticality %

Below Std / HU OBS Count

30%

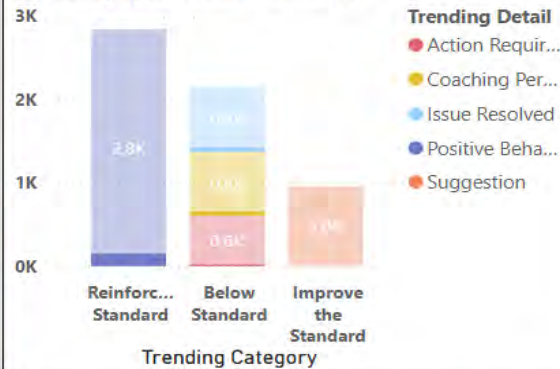


Description Text Search

Search

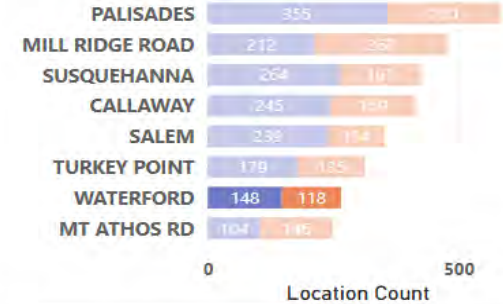


Trending Type Count - Initiated

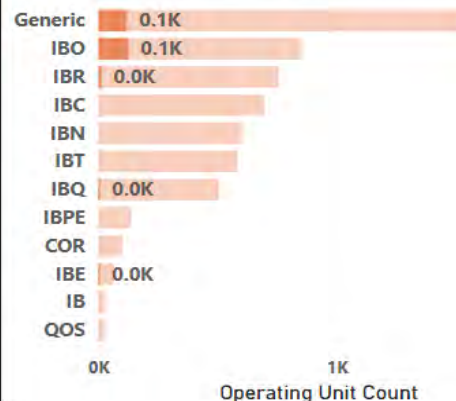


Location Count - Initiated

Safety ● Non-Safety ● Safety



Originator Operating Unit Count - Initiated



Cause Count - Initiated

Self Critical? ● No ● Yes



T5K

Count

Criticality

Lifting/Rigging	31	29%
Mobile Equipment	7	29%
Working at Height	26	19%
Total	64	25%

*Excludes "Improve the Standard" and filtered on "Good Quality".

** Closed HU OBS for Safety-related causes

Observation Type

All

Waterford – Combined w/ Entergy Data

Thur Weekly Data

Decomp Tree

Clear Filters

Select BU:

Orange = Selected

Entergy	IB
IB-Gen	

Select Time period:

Initiated On Date(s)

2/1/2025

5/24/2025

HU OBS Initiated

591

HU OBS Count*

553

Safety HU OBS**

118

Criticality



Top 5 Killer (All)

64

T5K	Count	Criticality
Lifting/Rigging	31	29%
Mobile Equipment	7	29%
Working at Height	26	19%
Total	64	25%

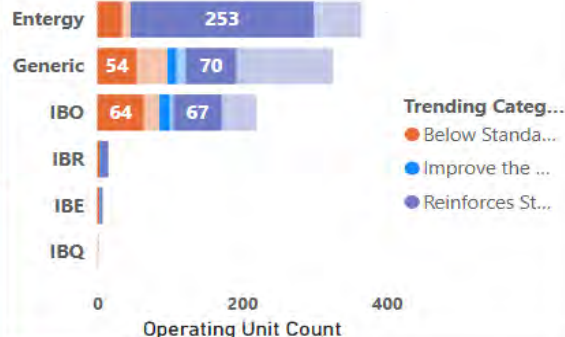
*Excludes "Improve the Standard" and filtered on "Good Quality".

** Closed HU OBS for Safety-related causes

Observation Type

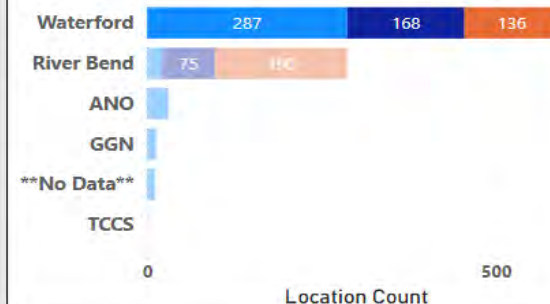
All

Originator Operating Unit Count



Location Count

Org BU Entergy IB IB-Gen



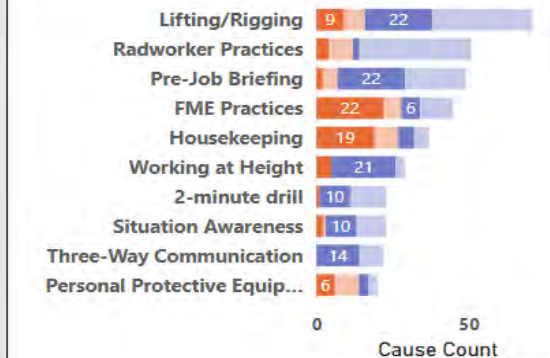
Entergy Cause Count

Trending Category: Below Standard Reinforces Standard



Framatome Cause Count

Self Critical? Yes No



▪ Refuel Services

- New Fuel Receipt
- Outage
 - Disassemble reactor
 - Remove head
 - Unlatch
 - Remove UGS
 - Offload the core
 - Perform FOSAR
 - Insert shuffle
 - Reload the core
 - Set UGS
 - Latch
 - Set Head
 - Reassemble reactor
 - Cut and Replace ICIs

▪ Resistance Temperature Detector Replacement

- EDM to Remove Broken RTD and Nozzle
- Install FME Plug
- J-Prep for new nozzle
- Install and Weld New Nozzle

ALARA

	Goal	Actual
RFL	21.200 R (Goal) 19.501 R (Stretch Goal 1) 17.466 R (Stretch Goal 2)	16.837 R
RTD	1933 mR	1384 mR

VOC

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
VOC 2025-0104	Waterford 3 CL RTD Nozzle Repair	William "Rob" Taylor	Project Manager	No	STEVENS, Jesse	10	Tooling Engineers were very thorough and noted as found condition that could have led to a penetration requiring rework or analysis. Leads were highly engaged and prepared.	Not sure if it was summit fever or simply a miss but the warped nozzle was a miss by both Framatome and Entergy in my opinion. Poor risk awareness and mitigation in the planning phase by both sides.

Condition Reports

CR	Description	Level	Org
CR-2025-1279	Employee felt hand discomfort.	Level 3	IBO Outage Services
CR-2025-1301	WF3 CEA Extension Shaft Operations procedure referencing wrong Framatome procedure	Level 3	IBO Outage Services
CR-2025-1134	Waterford J-prep radius out of tolerance	Level 3	IBR Comp Repair & Rep
CR-2025-1322	Waterford RTD Nozzle being replaced appears to be bent	Level 3	IBR Comp Repair & Rep
CR-2025-1384	The Resistance Temperature Detector (RTD) RC ITE0112-CD Nozzle Thermowell in the Replacement Nozzle will not pass through the new nozzle bore	Level 3	IBR Comp Repair & Rep
CR-2025-1176	Employee had a vehicle accident leaving work	Level 4	IBO Outage Services
CR-2025-1419	WF3 Framatome Employee Involved in Vehicle Incident	Level 4	IBO Outage Services
CR-2025-1189	J prep grinder right angle air motor rotated during training	Level 4	IBR Comp Repair & Rep
CR-2025-1336	Waterford 3 as found conditions on adjacent nozzle RC ITE0115/115-1.	Level 4	IBRF Field Operations

OM	N/A
SS	Jonathan Scruggs
PM	Jeff Ross
PE	Bryce Cummins
KM	Geb Broman

Millstone 3R23 (4/17-5/21)

Work Scope	Safety	Quality	Performance	Delivery	Comments
PWR Refuel					<p>S Zero OSHA Recordables or First-Aid injuries Report Only – Individual moving boxes, felt knee pop (1218) – delay in reporting this even to supervisor Personal Medical – Individual displayed abnormal facial conditions while sitting in the break area (1101)</p>
					<p>Q No Quality Issues TT Blind Flange Davit Arm Degraded (1097)</p>
					<p>P Transition piece from the reactor head (15 lbs) did not have a lanyard and dropped (1321)</p>
					<p>D Windows 2, 6, and 7 delivered ahead of schedule (32 hour gain in total) Windows 3 and 4 impacted by Transfer System emergency pull cable and spent fuel bridge brake (PAR) ALARA/Safety person provided value and learnings about in-house RP/ALARA team Segmented Guide Studs Installed/Removed/Utilized Successfully</p>

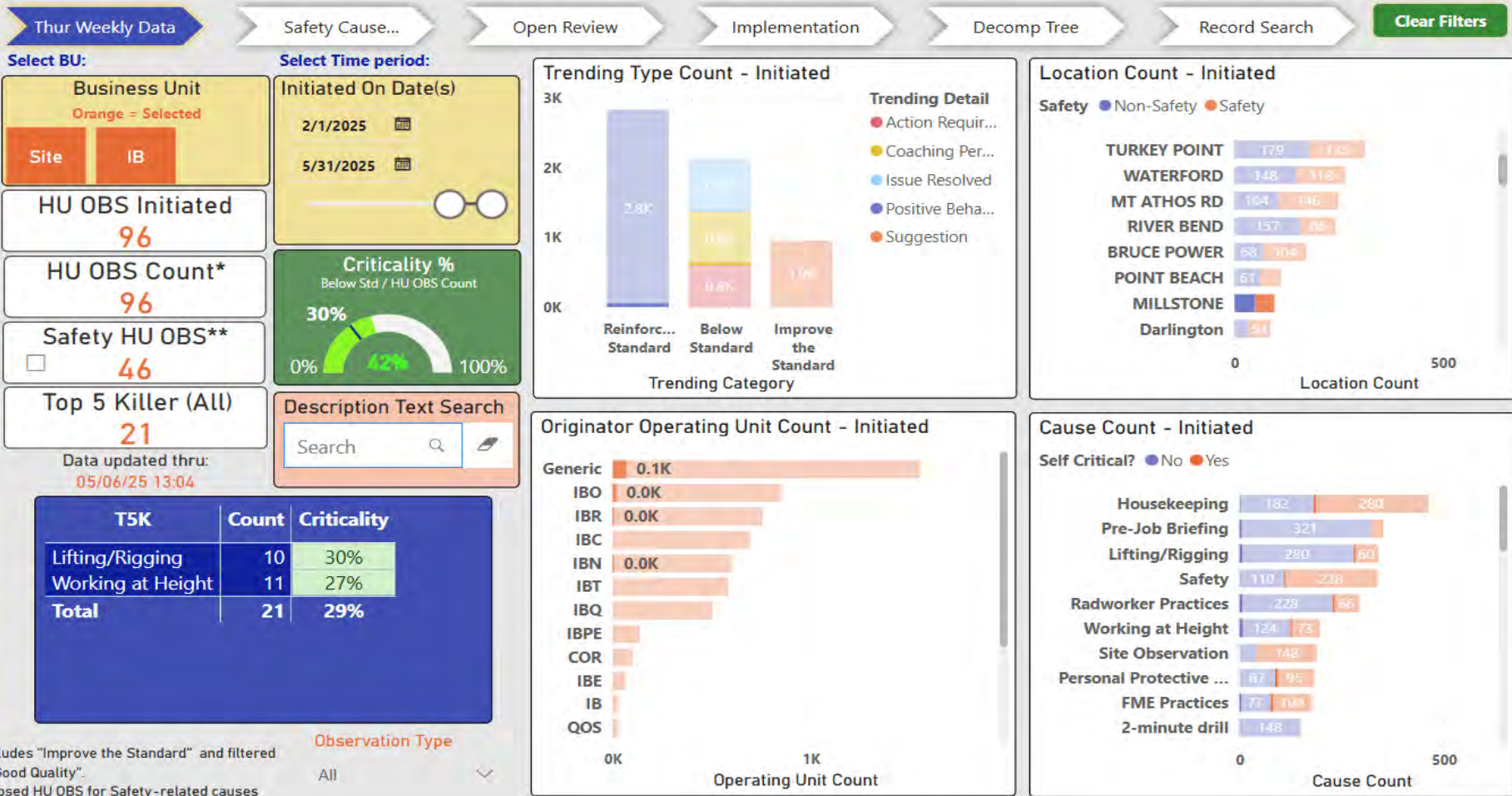
OM	N/A
SS	Jonathan Scruggs
PM	Jeff Ross
PE	Bryce Cummins
KM	Geb Broman

Millstone 3R23 (4/17-5/21)

Work Scope	Safety	Quality	Performance	Delivery	Comments
NDE RVCH (post peening N+3 exam)					S Zero OSHA Recordables or First-Aids Completed work scope under dose estimate – Goal 1.535 R / Actual 0.775 R
					Q 100% Equipment Reliability out of the box and through examination
					P No human performance issues
					D 2 VOC = 8 Avg. Completed work scope ahead of schedule Planned 140 hr. / Actual 119 hr.
NDE BMV					S Zero OSHA Recordables or First-Aids BMV exceeded dose goal 0.784 R (G) vs. 0.859 R (A)
					Q BMV THOR Crawler Tooling failures 3 of 5 crawlers did not work out of box TRIDENT Data Software corruption caused re-work to be performed TRIDENT Tool Techs not trained to repair/troubleshoot failed equipment
					P No human performance issues
					D 1 VOC = 5 1 additional shift of re-work caused by data corruption is TRIDENT's software

Millstone

Human Performance Observation Dashboard



- **RVCH (post peening N+3 exam)**
 - (61) Thermal Sleeved Penetrations using Dual Blade Probe UT
 - (2) Thermal Sleeved Penetrations RVLIS locations
 - (10) Standard Open Penetrations
 - (5) CETC Open Penetrations
 - (1) Vent Line ECT on both ID and OD
 - (10) Thermal Sleeve Penetrations – Thermal Sleeve Wear UT
- **Bare Metal Visual**
 - (78) CRDMS including 1 Vent Line and all head surfaces down to the transition area at the vessel head flange was visually examined utilizing the Trident THOR Crawler and Video Probes
- **Reactor Services**
 - Staff Augmentation for Standard Refueling Outage activities
 - Reactor Disassembly / Reassembly
 - Reactor Head Removal / Install
 - Upper Internals Removal Install
 - Core Offload / Reload
 - Fuel Insert Swaps

	Goal	Actual
RVCH UT	1.536 R	0.685 R
PWR	6.391 R	5.390 R

Condition Reports

CR	Description	Level	Org
CR-2025-1135	Millstone 3R23 NDE --- TRIDENT Tooling Failures (BMV) Equipment	Level 3	IBNN
CR-2025-1196	TRIDENT lacking procedures	Level 3	IBNN
CR-2025-1197	TRIDENT Software Data Corruption	Level 3	IBNN
CR-2025-1097	U3 Transfer Tube Blind Flange Davit Arm Degradation	Level 3	IBO
CR-2025-1235	Challenges with inserting a new fuel assembly into a 3-sided box because of the adjacent bowed fuel assemblies	Level 3	IBO
CR-2025-1321	LVL -1 dropped object RX head hoist rail transition piece dropped while removing from RX head.	Level 3	IBO
CR-2025-1150	ACTUATOR MAKES TICKING SOUND	Level 3	IBPE-P
CR-2025-1468	PO 1024066006 revised in error to allow application of invoice for payment.	Level 3	Supply Chain
CR-2025-1267	CR from VOC Detractor Classification at MILLSTONE-3	Level 4	IBNN
CR-2025-1218	Employee Twisted Knee	Level 4	IBO
CR-2025-1101	Individual displayed abnormal facial conditions while sitting in break area	Level 4	IBOP

VOC Surveys

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
VOC 2025-0089	2025-2031 DOMINION ENERGY FLEET BMV	Michael Eustice	Technical Lead	Yes	CALABRESE, Joe	5	Past knowledge of Reactor Vessel Head BMVs at Millstone - Task Lead supporting troubleshooting and repair of TRIDENT's equipment. Task Lead (Joe Calabrese) keeping the job on track with his legacy knowledge and relationships with Dominion Personnel on site.	Look into engineering internal inspection device so there is no reliance on sub vendor. If maintenance of equipment cannot be maintained with sub- vendor's equipment, consider building in-house equipment so Framatome has control of over programs related to equipment.
VOC 2025-0085	2025 S MILLSTONE UNIT 3 NDE SERVICES	Kevin Hacker	Technical Lead	Yes	GATICA, James	8	was impressed with the Framatome staff including the task managers, operators, data analysis personnel, and techs	Would like to see the UT software updated to new technology that is available. Will need new qualifications to perform examinations at North Anna
VOC 2025-0084	2025 S MILLSTONE UNIT 3 NDE SERVICES	David Goff	Project Manager	No	SMITH, Adam	8	Technical expertise	Using OE for better planning and implementation

OM	N/A
SS	Jonathan Scruggs
PM	Sharlene Riddlebarger
PE	Bryce Cummins
KM	Geb Broman

North Anna 2R30 (3/1-4/8)

Work Scope	Safety	Quality	Performance	Delivery	Comments
PWR Refuel Staff Aug					S No safety events reported
					Q No quality events
					P Station performed LIDAR for Gap Check along with Newton to benchmark capabilities
					D 2 VOC Surveys = 8.5 Avg. First time FFP for wok scope
NDE Bare Metal Visual					S No safety events reported BMV dose – 0.737 mR (G) vs. 0.535 mR (A)
					Q No quality issues
					P No human performance issues
					D 1 VOC Survey = 10 Planned duration = 36 hrs. vs. 38.5 hrs. actual

OM	N/A
SS	Jonathan Scruggs
PM	Sharlene Riddlebarger
PE	Bryce Cummins
KM	Geb Broman

Work Scope	Safety	Quality	Performance	Delivery	Comments
SRS FHE Support					S No safety events reported
					Q No major equipment issues during checkouts Transfer carriage overloads during (see Delivery comments)
					P No human performance issues
					D Manipulator Crane brake drifting (0833) Transfer carriage overloading during transition at Weir Gate: seismic clip interference (0836)

- **Refuel Staff Aug**
 - Drive shaft to drive shaft A&C Support
 - Unlatch drive shafts
 - Remove Upper internals
 - Offload core
 - Demob
 - Remob
 - Reload core
 - Set upper internals
 - Latch drive shafts
 - Possible HAM Support
 - Augment the inhouse team for disassembly/reassembly activities
- **Stearns Roger**
 - 2 Technicians
 - Pre-outage console inspection and transfer canal inspection
 - Outage Support site with routine PMs and checks on FHE (Manipulator Crane and XFER sys), gripper inspections
 - Support troubleshooting / repair of FHE during fuel movement as needed
- **Bare Metal Visual**
 - Upper RVCH bare-metal surfaces around 65 CRDM Nozzles including 1 Vent Line and all head surfaces down to the transition area at the vessel head flange will be visually examined utilizing the Trident THOR Crawler and Video Probes.

ALARA

	Goal	Actual
BMV	0.737 mR	0.535 mR
RFL	N/A	N/A

Condition Reports

CR	Description	Level	Org
CR-2025-0833	North Anna Manipulator Bridge Crane Brake is drifting	Level 3	IBOS Stearns Roger Sv
CR-2025-0836	North Anna Transfer Carriage is Getting Stopped at Weir Gate Rail Transition	Level 3	IBOS Stearns Roger Sv
CR-2025-0567	SRS Hose Assembly - Missing Adapter	Level 3	IBPE-P NPC WH & Tech Ops
CR-2025-0497	Fuel Gripper Testing & Inspection Process Correction	Level 3	IBPE-P PES Products - Mechanical Engr. & Tech. Ops.

VOC Surveys

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
VOC 2025-0088	2025-2031 DOMINION ENERGY FLEET BMV	Michael Eustice	Technical Lead	Yes	CALABRESE, Joe	10	Pre-Job planning was well executed. Engagement with customer resolving issues in a timely manner to avoid downtime.	Breakout meetings with Framatome Task Lead instead of entire group of Framatome individuals.
VOC 2025-0063	2025S North Anna 2R30 Refuel Support	Earl Mayton	Ops Support Superintendent	No	LOUDON, Doug	9	The personnel sent were engaged, provided valuable advice, and were always willing to help.	The SRS daily report has stopped being transmitted as its in the Digital Outage Toolkit (which I don't have access) . For next outage, it would be beneficial to get a copy of those logs daily or still have a daily turnover report sent for records.
VOC 2025-0062	2025S North Anna 2R30 Refuel Support	Bryan Williams	Ops Support Supervisor	No	LOUDON, Doug	8	Knowledge Level / Experience of Personnel is consistently excellent.	Consistent Returnees of personnel that support North Anna and Surry (Both SRS Techs and Fuel Advisors), and minimize changes of personnel leading up to the outage start.

OM	Cory Faris
SS	Rob Smith
PM	Rusty Cox
PE	David Grigg
KM	Albert Kluttz

Pt. Beach 1R42 (3/22-4/16)

Work Scope	Safety	Quality	Performance	Delivery	Comments
PWR Refuel					<p>No Safety events Work scope completed at 73.6% of dose goal</p> <p>S Unexpected dose rates during outage required RWP dose limits to be increased – Zinc Injections believed to be the reason for higher dose rates (0864)</p>
					<p>Q No Quality issues Substance identified on Reactor Vessel and Head O-ring (0911)</p>
					<p>P No human performance events No rework</p>
					<p>D Shortest outage ever at Point Beach, 19.6 days Site Best Window 4 and Window 7 performance VOC = 9 Avg. (4 completed)</p>

IOM	Cory Faris
OM	John Magnarelli (D), Gary Fries (N)
SS	Rob Smith
PM	Rusty Cox
PE	David Grigg
KM	Albert Kluttz

Pt. Beach 1R42

(3/22-4/16)

Work Scope	Safety	Quality	Performance	Delivery	Comments
SGS OM John Magnarelli (d), Gary Fries (n) WL, SSI, UBF					S <ul style="list-style-type: none"> No safety events, > 1000+ manhours worked without any safety related events Use of Yak Tracks during inclement weather prevented Slips / Trips / Falls Implemented new MSA Altair 5X Meters to detect Hydrazine (Site Training Provided) Great job performance and working efficiently while encountering higher than anticipated dose rates due to previous Zinc injections
					Q <ul style="list-style-type: none"> Zero SG re-work and "Performing work correct the first time" helped with aiding in the fastest refuel outage performed in Point Beach history LL was captured to work with site to streamline Work Orders
					P <ul style="list-style-type: none"> No human performance events
					D <ul style="list-style-type: none"> First SG outage at Point Beach (Secondary only) Completed scopes prior to baseline Good performance by SSI for retrieving objects, One legacy part was removed that was noted several outages earlier--WL/UBF removed ~3x the amount of sludge compared to previous vendor. VOC = 10 (1 completed)

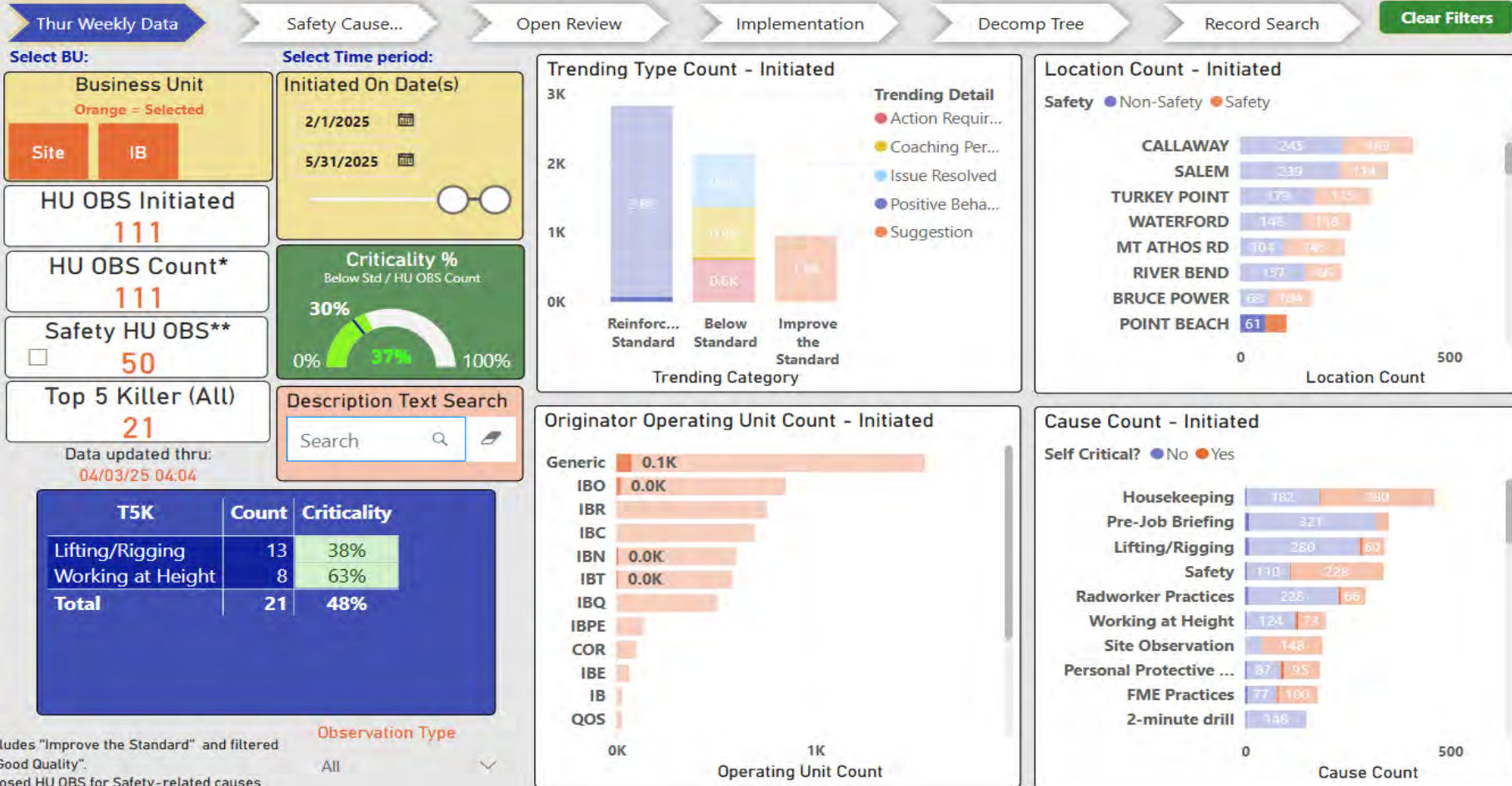
OM	Cory Faris
SS	Rob Smith
PM	Rusty Cox
PE	David Grigg
KM	Albert Kluttz

Pt. Beach 1R42
(3/22-4/16)

Work Scope	Safety	Quality	Performance	Delivery	Comments
SRS FHE Support					S No safety events
					Q Manipulator Crane CPU failure during check-outs (0846)
					P No human performance events
					D Excellent equipment reliability and zero equipment down time during core offload VOC included in refuel survey

Point Beach

Human Performance Observation Dashboard



- **Refuel Services**

- Pre-outage Preparation
- Reactor Disassembly
- Core Offload
- Insert Shuffle
- Core Reload
- Reactor Reassembly

- **Stearns Roger Services**

- 4 Technicians (3 SRS, 1 PaR)
- Perform routine PMs and checks on FHE
- Contingency XFER sheave replacement
- Support during fuel movement

- **Steam Generator**

- SSI

- Steam Drum Inspections – 2 SGs
- Pre/Post-UBF Inspections – 2 SGs
- Post Water Lance Baffle Plate and TTS Inspection – 2 SGs
- 7th TSP Inspection – 2 SGs

- Water Lance TTS/FDB and UBF

- Both SGs

	Goal (R)	Actual (R)
RFL	9.003	7.514
SGS (UBF/WL/SSI)	9.449	10.395

- a) First time Framatome has performed work at Point Beach
- b) Site performed Zinc injections 2 outages ago. When the injections take place there is a typical spike in dose rates before they level off.
- c) Due to the elevated dose rates, an Alara Review Board meeting took place to grant additional dose for RWP 2025-1055, with an increase of 4 Rem

Condition Reports

CR	Description	Level	Org
CR-2025-0912	SSI Datastation UPS not holding charge	Level 3	IBEN IBN Equipment
CR-2025-0925	SSI Text Overlay Microtronix Failed	Level 3	IBEN IBN Equipment
CR-2025-0684	Late crew changes are being made without prior communication to project coordinators	Level 3	IBO Outage Services
CR-2025-0911	Substance found on Outer O-Ring groove during O-Ring groove cleaning	Level 3	IBO Outage Services
CR-2025-0846	Manipulator Crane CPU failure. During Check Outs.	Level 3	IBOS Stearns Roger Sv
CR-2025-0864	Point Beach 1R42 Increased Dose Rates	Level 3	IBTEHS Environmental Health Safety & Licensing

VOC Surveys

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
VOC 2025-0086	Sp25 Pt. Beach 1R42 SG Services	Kevin Wehausen	Project Manager	No	FRIES, Gary	10	For first time performance at PB work scope went pretty good! Always looking ahead and being prepared.	N/A
VOC 2025-0069	Spr25 Pt. Beach 1R42 Refuel	Nick Reckelberg	Other	No	FARIS, Cory	9	Schedule adherence and worked safely.	Integration of Framatome's technology with the site i.e. be able to update the OCC similar to how the Framatome's team room was receiving real time updates. Note: This comment is tied to the use of our iPads and syncing with our iPads in the office. He is going to try and carry this over to the maintenance department.
VOC 2025-0067	Spr25 Pt. Beach 1R42 Refuel	Cheryl Eddy	Engineering Manager	Yes	FARIS, Cory	8	Good partnership with the station personnel and other vendors. Ownership of work. Knowledge/experience. Good communication when efficiencies were realized.	Validate info/status/needs prior to reports at turnover, make recommendations - input from experience at other stations so we can benefit from that experience.

Pt. Beach 1R42 (3/22-4/16)

VOC Surveys

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
VOC 2025-0066	Spr25 Pt. Beach 1R42 Refuel	Kevin Wehausen	Project Manager	No	FARIS, Cory	9	Being prepared and looking ahead in the schedule. Communications - in and out of containment. The iPhones and iPad taking pictures.	None
VOC 2025-0065	Spr25 Pt. Beach 1R42 Refuel	Chuck McMillan	Other	No	FARIS, Cory	10	Readiness, safety, parallel work activity	Not specific to 1R42 but a general comment historically: The refueling crews appear to run a tight ship with good execution and communication. However, other divisions such as SG Services and ISI Vessel are not well oiled and lack some of the communication strengths as their refueling service counterparts.

OM	N/A
SS	Ben Grambau
PM	Andrew Lykins (ST, BOP)
PM	Lauren Smith (RCP)
PE	Kent Gebetsberger
KM	

DC Cook 1R33

(3/22-4/21)

Work Scope	Safety	Quality	Performance	Delivery	Comments
PWR Seal Table					S No safety events
					Q No quality events
					P No performance events
					D All available thimble tubes cleaned successfully (1 location capped) Location F-1 repositioned due to thread engagement wear issues Site delays required deployment of substitute personnel 1 location had to be monitored as the site approached NOP/NOT
CHEM BOP					S Zero OSHA Recordables or First-Aids
					Q No quality issues – Measured and identified replacement Aftercooler that did not require drilling flanges to assist with fitting
					P Internal FME devices left in CCW after closure (1109) Early outage crew member replacement
					D Finished 12 hours ahead of schedule and remained off critical path VOC = 9 (VOC 2025-0102)

OM	N/A
SS	Ben Grambau
PM	Andrew Lykins (ST, BOP)
PM	Lauren Smith (RCP)
PE	Kent Gebetsberger

DC Cook 1R33

(3/22-4/21)

Work Scope	Safety	Quality	Performance	Delivery	Comments
RCP Main Flange Bolt Elongation and Stretch Verification					S Zero Recordable Injuries or First Aids
					Q Work Performed Without Incident and With First-Time Quality
					P No human performance events
					D Work Scope Completed Successfully Proficient Leads and Highly Competent Technicians Customer Pleased with Team Proficiency VOC = 10 (1 completed)

- **Reactor Services**

- Seal table disassembly
- Thimble tube cleaning
- Thimble tube retraction/insertion
- Repositioning and reassembly

- **Heat Exchanger Repair**

- Typical Heat Exchanger repair scope as has been performed during the past 9 outages.
 - Open/Plug/Close – Main condensers & MFP condensers
 - Open/Clean/Plug/Close – Main Turbine Lube Oil Coolers & CCW's
 - Open/Clean/Plug/Close – MFP oil coolers
 - Open/Clean/Close – EDG Lube Oil and EDG Jacket Water Coolers

- **RCP**

- Perform Bolt Elongation Verification and Stretch as Necessary on (2) each RCP Main flanges

Condition Reports

CR	Description	Level	Org
CR-2025-1109	Internal FME Devices Left Behind	Level 3	IBNC Chemistry & BOP Services
CR-2025-0929	Bolt Heaters sent to DC Cook had electrical plugs that did not couple with the fittings from the control box/extension cords.	Level 3	IBR Comp Repair & Rep
CR-2025-0892	DC COOK -- Site Maintenance Team was unable to perform breakaway on RCP13 Motor	Level 3	IBRP Pump & Motor Services
CR-2025-0900	Loose Lift Oil Pump Motor mounting bolt.	Level 3	IBRP Pump & Motor Services

VOC Surveys

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
VOC 2025-0091	25S DC Cook U1C33 Bolt Stretch	Benjamin P Horner	Technical Lead	Yes	SMITH, Lauren	10	Great communication, working safely in tight spaces.	Provide lessons learned and feedback on procedures.
VOC 2025-0103	2025S DC Cook U1C33 Seal Table	John D Anderson	Other	No	LYKINS, Andrew	9	Seal Table -Suggestions for the use of neo lube on the fittings -emergent adjustment was done well	Seal Table - providing resources with better proficiency for Seal Table
VOC 2025-0102	2025S DC Cook U1C33 BOP Services	John D Anderson	Other	No	LYKINS, Andrew	9	BOP -craftsmanship was solid -proactively addressed crew issues	BOP -Avoiding complacency (FME Event) -Better communication when unsure, stopping for clarification, escalating concerns before they become an opportunity

OM	N/A
SS	Ben Grambau
PM	Sharlene Riddlebarger (NDE)
PM	Steve Merkle (RCP)
PE	Kent Gebetsberger
KM	Jason Nelson

McGuire 1R30

(4/2-4/27)

Work Scope	Safety	Quality	Performance	Delivery	Comments
NDE Baffle Bolt UT 832 BB w/ 2 Mast Systems					S Zero OSHA Recordables or First-Aids
					Q Identified drawing that needs revised (CR 2025-1093)
					P No human performance issues
					D VOC = 9.6 Avg (3 completed) – very satisfied with safety, quality, and communication
NDE NEMO HL					S Zero OSHA Recordables or First-Aids
					Q Zero quality related events
					P No human performance issues
					D VOC = 9 (1 completed) – good job – good procedures and personnel

OM	N/A
SS	Ben Grambau
PM	Sharlene Riddlebarger (NDE)
PM	Steve Merkle (RCP)
PE	Kent Gebetsberger
KM	Jason Nelson

McGuire 1R30
(4/2-4/27)

Work Scope	Safety	Quality	Performance	Delivery	Comments
RCP <ul style="list-style-type: none"> B Seal Replacement Motor PMs 					S Zero Recordables or First Aids
					Q Work Performed with First-Time Quality
					P No issues
					Strong Leadership High Level of Work Ownership by Framatome Team D Met Schedule Deadlines VOC = 10 (1 Completed)

McGuire

Human Performance Observation Dashboard

Thur Weekly Data

Safety Cause...

Open Review

Implementation

Decomp Tree

Record Search

Clear Filters

Select BU:

Business Unit

Orange = Selected

Site

IB

HU OBS Initiated

27

HU OBS Count*

27

Safety HU OBS**

16

Top 5 Killer (All)

5

Data updated thru:
04/27/25 17:55

Select Time period:

Initiated On Date(s)

2/1/2025



5/31/2025



Criticality %

Below Std / HU OBS Count

30%

0%

59%

100%

Description Text Search

Search



T5K

Count

Criticality

Working at Height

5

40%

Total

5

40%

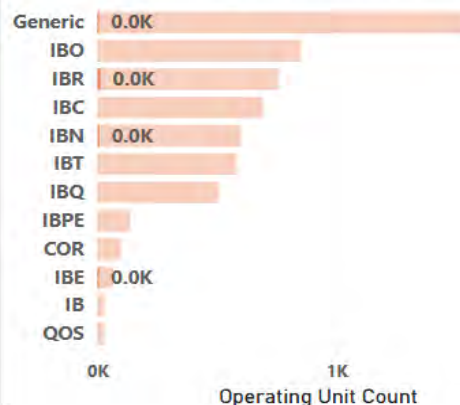
Observation Type

All

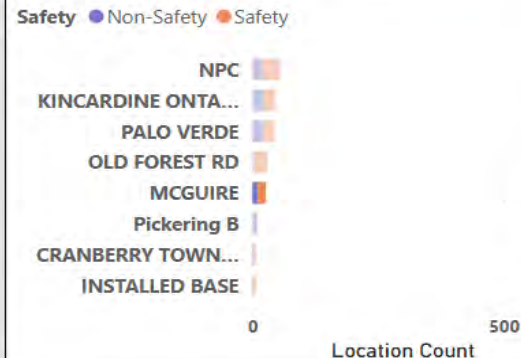
Trending Type Count - Initiated



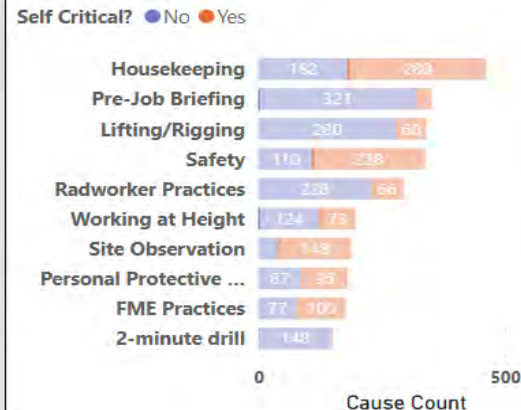
Originator Operating Unit Count - Initiated



Location Count - Initiated



Cause Count - Initiated



*Excludes "Improve the Standard" and filtered on "Good Quality"

** Closed HU OBS for Safety-related causes

- **Baffle Bolt UT**
 - 832 BB with 2 Mast systems
 - Parallel exams with Hot Leg Nozzle Exams with NEMO

- **NEMO H/L**
 - 4 Hot Leg DM weld UT Exams (Depth Sizing and ET contingency)
 - Parallel exams with two BB mast tools

- **RCP**
 - 1 RCP Seal Replacement
 - 4 Motor PMs
 - RCP Motor Oil change
 - RN Motor install advise and consultation

ALARA

	Goal	Actual
BB UT / NEMO HL	0.473 mR	0.337 mR

Condition Reports

CR	Description	Level	Org	Event Code - Reference	Scorecard Category
CR-2025-1035	Baffle Bolt Toolhead Bundle has bad axial cable	Level 3	IBEN IBN Equipment	A04.07 EQUIPMENT ABNORMAL FUNCTION - Equipment not responding as expected (such as start, stop, open, trip, or will not reset).	Equipment
CR-2025-1009	Z-Scan has intermittent connectivity issue	Level 4	IBEN IBN Equipment	A04.07 EQUIPMENT ABNORMAL FUNCTION - Equipment not responding as expected (such as start, stop, open, trip, or will not reset).	Equipment (L4)
CR-2025-1093	Document 51-9360573 Baffle Bolt Probe Holder Arrangements Needs revised	Level 4	IBNA NDE Engineering	A01.03 DESIGN INCORRECT/INADEQUATE - Design does not meet requirements, technical error in design documentation.	Documentation Error (L4)

VOC Surveys

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
VOC 2025-0093	McGuire S25 RCP Support	Matt Rutkowski	Technical Lead	No	DAVIS, Keith	10	Strong leadership Their work and preparations are Seamless Very strong Team and team leaders	N/A
VOC 2025-0076	2025S McGuire M1R30 MSR Met Supp	James Eanes	Other	No	WHITE, Carl	10	Professionalism, technical knowledge, clear communications, reliable, prompt work starts and completions. Contributes valuable lookaheads to effectively structure task sequences. Perfect responsiveness to emergent scope addition.	Perhaps Framatome could acquire additional equipment inventory to avoid logistical questions that can occur when equipment is scheduled to move from one site to another with short turnaround times.
VOC 2025-0073	2020-2025F MNS1 M1R27-R30 MRP227 Exam	Ned Finney	Principal LIII UT	No	SHEERAN, Josh	9	Personnel and procedures	N/A

VOC Surveys

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
VOC 2025-0075	2020-2025F MNS1 M1R27-R30 MRP227 Exam	Jared Jones	Project Manager	No	CALABRESE, Joe	10	Framatome's biggest strengths during the scope were their clear communication and adaptability. Responding quickly to changes in the plan without impacting safety or quality.	Framatome could continue to strengthen defense in depth and mitigate single point vulnerabilities by further developing operations and analyst experience and ensuring project continuity even in the event of key personnel loss,
VOC 2025-0074	2020-2025F MNS1 M1R27-R30 MRP227 Exam	Ned Finney	Principal LIII UT	No	BAUNE, Tanner	9	personnel and procedures	N/A
VOC 2025-0070	2020-2025F MNS1 M1R27-R30 MRP227 Exam	James Salton	Supervisor, Fleet NDE Support Services	Yes	SMITH, Adam	10	Communication and operational excellence are some of the strengths that drive the success. These behaviors are not by accident and appear to be fostered across the organization.	Documentation submittals reviewed prior to sending – during preparations for M1R30 it was noted by Duke personnel that a few of the submitted personnel certifications did not meet the requirements of the specific jobs they were coming to support. These were quickly rectified by Framatome. However, Duke should not be the ones to catch these types of errors, ese should be identified by Framatome during their processes prior to submittal of documentation to their customer.

VOC Surveys

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
VOC 2025-0071	McGuire RN 2 Refurb and Rewind/RN Motor Advisors	Michael Alfonso	Project Manager	Yes	MERKLE, Steve	10	Broad knowledge and well versed on (motor, metrology, baffle bolt inspections) Advisors - Good teamwork with site team/ our field team, team finished early (gained 43 hrs from crit path) Disassembly of motor at the shop showed flexibility and accommodation on part of Framatome to meet the pre-outage schedule - MNS personnel present helped (during disassembly) with motor knowledge transfer	Could have been more proactive earlier in schedule (although delivery date was made) Perhaps could have pushed MNS to provide revision to Main Lead Box mod drawing to update accuracy of the modification after fit-up demonstrated some challenges with existing drawing/document.

OM	Joel Lunsford
SS	Jonathan Scruggs
PM	Jon Black
PE	David Grigg
KM	Eddie Ivins

Salem 1R30
(4/13-5/13)

Work Scope	Safety	Quality	Performance	Delivery	Comments
PWR Refuel					S Zero OSHA Recordables or First-Aid injuries No Report Only Injuries
					No rework or delays due to quality issues
					Q Site owned BWR J hook adaptor broke causing Foreign Material (1147) Issues with Shoehorn Cables (1482)
					P Core verification camera cable was not disconnected prior to manipulator crane movement (1481) Electronic dosimeter dropped into lower cavity (1111) Hard hat dropped in lower cavity (1125) Incorrect use of fall protection (1153)
					D Windows 2 & 7 performance gained site 10 hours of critical path time Provided resource versatility during uncertain outage progression
SRS FHE Support					S No safety events
					Q No FHE failures
					P Dropped Object – Tech lost control of hard hat and fell ~40 ft. into lower cavity (1125)
					D Great teamwork. Smoothly adjusted to changing schedule by having good communication and bench depth for relief personnel. No major fuel delays Implemented air compressor temp mod on the MC. Successfully eliminated nitrogen tank changeout delays

OM	Joel Lunsford
SS	Jonathan Scruggs
PM	Jon Black
PE	David Grigg
KM	Eddie Ivins

Salem 1R30
(4/13-5/13)

Work Scope	Safety	Quality	Performance	Delivery	Comments
NDE RVCH					S Zero OSHA Recordables or First-Aids
					Q “Candy” software did not display PSI data in its raw form. Had to send computer with original software to view aquasonics
					P NUMAN – Elevator motor bent pin, causing tool pull and repair
					D Head stand door had different dimensions from as-build drawing requiring ramp to be built for NUMAN install removal, instead of our fabricated ramp.
NDE Manual ISI					S Zero OSHA Recordables or First-Aids
					Q Delivered 2 direction UT of UGW
NDE Emergent MRP					P Multiple results of one indication
					D 14.2-inch patches is inadequate for mass production of circ weld UT Tool Pull due to electrical tape on umbilical

OM	Joel Lunsford
SS	Jonathan Scruggs
PM	Jon Black
PE	David Grigg
KM	Eddie Ivins

Salem 1R30 (4/13-5/13)

Work Scope	Safety	Quality	Performance	Delivery	Comments
RCP <ul style="list-style-type: none"> Main Flange Bolt Elongation and Stretch Verification 					S Zero Recordables or First Aids
					Q #1 Seal Leak Off Flange Leak – Gasket misalignment identified during startup (1511)
					P No issues
					Strong Leadership D High Level of Work Ownership by Framatome Team Met Schedule Deadlines

Salem

Thur Weekly Data

Safety Cause...

Open Review

Implementation

Decomp Tree

Record Search

Clear Filters

Select BU:

Business Unit

Orange = Selected

Site

IB

HU OBS Initiated

353

HU OBS Count*

353

Safety HU OBS**

114

Top 5 Killer (All)

61

Data updated thru:
05/24/25 16:23

Select Time period:

Initiated On Date(s)

2/1/2025



5/31/2025



Criticality %

Below Std / HU OBS Count

30%



Description Text Search

Search



T5K

Count

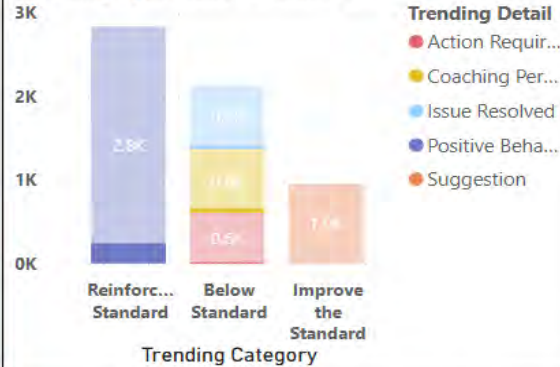
Criticality

Confined Space	1	100%
Lifting/Rigging	40	10%
Mobile Equipment	5	20%
Working at Height	15	53%
Total	61	23%

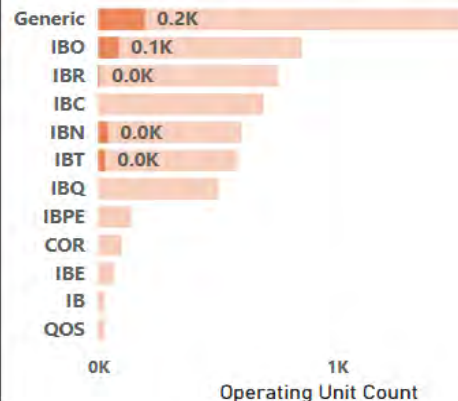
Observation Type

All

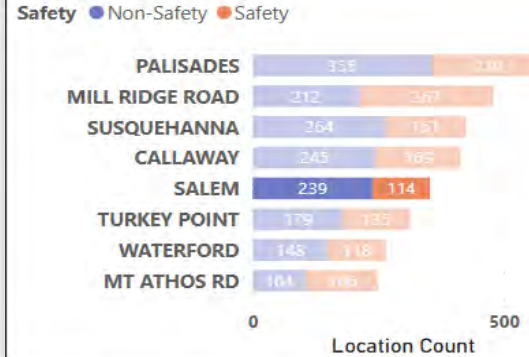
Trending Type Count - Initiated



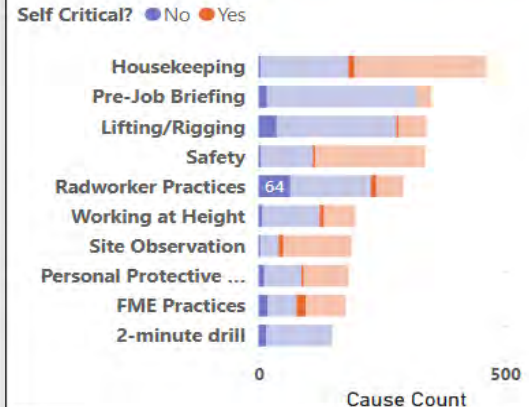
Originator Operating Unit Count - Initiated



Location Count - Initiated



Cause Count - Initiated



*Excludes "Improve the Standard" and filtered on "Good Quality".

** Closed HU OBS for Safety-related causes

▪ **RVCH**

- Laser Scanning, Laser Tracking,
- UT/ECT/VT (57) Thermal Sleeved Nozzles,
- Vent Line and RVLIS ECT
- Centering Tab Wear
- OD Thermal Sleeve Wear and Nozzle End VT
- Thermal Sleeve Thickness Wear Measurements UT

▪ **Manual ISI**

- 16 manual ISI piping welds
- 1 Bolting examination
- 4 PSI welds

▪ **Stearns Roger Services**

- Pre-outage
 - Console checks
- Outage
 - Pre-op checks on RFM and XFER system
 - Support RFM and XFER System

▪ **Reactor Services**

- Pre-outage equipment refurb
 - HAM support equipment
 - Long handle tools
- Outage
 - Reactor Disassembly / Reassembly
 - Reactor Head Removal / Install
 - Upper Internals Removal Install
 - Core Offload / Reload
 - Fuel Insert Swaps
 - FME Monitoring
- Post-outage support
 - Equipment pack out and inventory

	Goal(R)	Actual(R)
RFL*	10.481	10.213

* Does not include emergent work scope

Condition Reports

CR	Description	Level	Org
CR-2025-1158	Bent Pin on NUMAN elevator cable	Level 3	IBEN
CR-2025-1314	Guidance needed on off-axis flaw marking	Level 3	IBNA
CR-2025-1159	Broken Blade Probe sent to site	Level 3	IBNN
CR-2025-1338	Inconsistent UT data results observed	Level 3	IBNN
CR-2025-1111	Electronic Dosimeter dropped into Lower Cavity	Level 3	IBO
CR-2025-1147	BWR J hook adaptor broken causing FM	Level 3	IBO
CR-2025-1194	Fuel pin on lower core plate found missing	Level 3	IBO
CR-2025-1482	Issues with Shoe-Horn Cables	Level 3	IBO
CR-2025-1153	Worker observed improperly using fall protection prior to working at heights	Level 3	IBOP
CR-2025-1481	Camera Cord Damaged During Core Reload	Level 3	IBOP
CR-2025-1125	Hard hat dropped in lower cavity	Level 3	IBOS
CR-2025-1305	Belleville Washer missing from Dead Arm gripper	Level 4	IBEO
CR-2025-1318	DCM unable to properly mark location	Level 4	IBNA
CR-2025-1154	RVCH Penetration #38 has an unexpected condition	Level 4	IBNN
CR-2025-1143	As Found Seal Table Salem 1R30	Level 4	IBO

VOC Surveys

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
VOC 2025-0101	2025S Salem 1R30 NDE Services	Scott Malec	Other	No	MACLEAN, Duncan	10	Technicians were knowledgeable about the work scope and flexible when exams needed to be rescheduled due to insulation and/or scaffolding not being available the day some exams were scheduled.	No areas for improvement noted.
VOC 2025-0096	2025S Salem 1R30 NDE Services	Adam Burke	Technical Lead	No	TOMLIN, Ken	9	Framatome's ability to perform work in a safe manner is the best in the business. Your video quality is also the best in the industry. The ability to provide support on short notice is a key strength that puts you above other competitors.	Training more of new personnel. With nuclear becoming more in demand, personnel will need to be hired and trained. I know that this is a challenge, but Framatome needs to hire and train new employees.

OM	Rudy Avalos
SS	Tom Busic
PM	Mark Michaels
PE	
KM	TBD

Palo Verde 1R25

(3/29-4/23)

Work Scope	Safety	Quality	Performance	Delivery	Comments
CRR Pressurizer Instrument Nozzle Repair					Near Miss – 480V extension cord fell thru a piping penetration into a tank room (1002) Vehicle Accident – Individual involved in vehicle accident on way back to hotel from work (1206) S 2 PCEs – Uptake due to inadequate dress and controls in place (no CR) & contamination around neck area (no CR)
					Q
					P Cut wrong location – weld connecting the pipe stub and valve V206 was partially cut (1005)
					D

Palo Verde

Human Performance Observation Dashboard

Thur Weekly Data

Safety Cause...

Open Review

Implementation

Decomp Tree

Record Search

Clear Filters

Select BU:

Business Unit

Orange = Selected

IB

HU OBS Initiated

45

HU OBS Count*

45

Safety HU OBS**

24

Top 5 Killer (All)

5

Data updated thru:

05/07/25 09:28

Select Time period:

Initiated On Date(s)

2/1/2025



5/31/2025



Criticality %

Below Std / HU OBS Count

30%

0%

49%

100%

Description Text Search

Search



T5K

Count

Criticality

Mobile Equipment

2

50%

Working at Height

3

100%

Total

5

80%

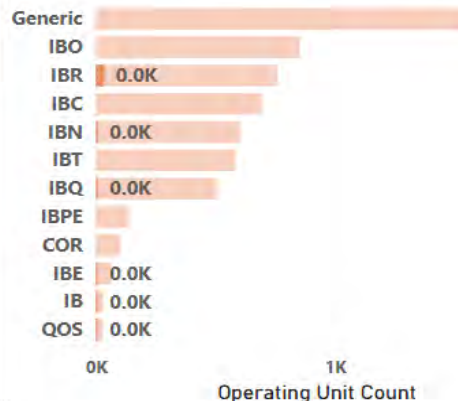
Observation Type

All

Trending Type Count - Initiated



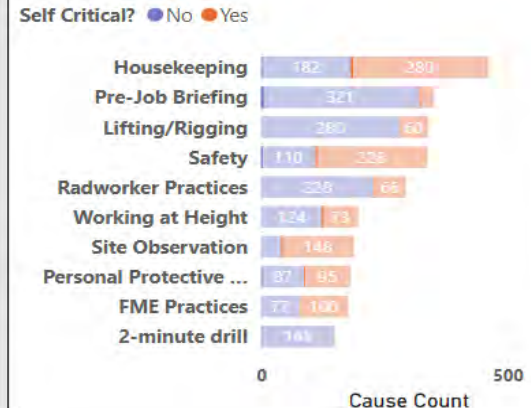
Originator Operating Unit Count - Initiated



Location Count - Initiated



Cause Count - Initiated



*Excludes "Improve the Standard" and filtered on "Good Quality".

** Closed HU OBS for Safety-related causes

Pressurizer Instrument Nozzle Repair

- Repair of PZR Nozzles, 4 Upper and 2 Lower. Implement Equipment Test Plan (based on issue encountered at Palo Verde last outage)
 - Cut nozzle flush
 - Remove existing weld pad (lower nozzles)
 - Install Weld Dam
 - Vessel Thickness UT
 - PT stud location and install studs
 - Weld pad installation
 - Volumetric UT Exam
 - Post weld machining and prep for new nozzles
 - Weld replacement nozzles

Condition Reports

CR	Description	Level	Org
CR-2025-0332	BOP ESFAS LOP/LS Module Interlock Pinout Incorrect	Level 2	ICTUE
CR-2025-0829	PAD-Heads not performing as expected	Level 3	IBER
CR-2025-0319	Tubing ovality issues were found for the first 2 heaters being fabricated by TEi for Palo Verde (one LP-1 and one LP-2).	Level 3	IBR
CR-2025-0796	Causal Evaluation / Corrective Actions are to be performed and provided by TEi's tubing supplier to avoid future tubing ovality issues addressed in CR 2025-0319.	Level 3	IBR
CR-2025-0857	Palo Verde Instrument Nozzle Blank Drawing References Incorrect Code Year for Sec. III, NB-2000	Level 3	IBR
CR-2025-1002	Dropped 480V Extension Cord	Level 3	IBR
CR-2025-1005	Incorrect Fillet Weld was Cut While Working on the Piping Subassembly Connected to Valve V206	Level 3	IBR
CR-2025-1010	Stud locations on Pressurizer Upper Nozzles V204 and V207 do not align with alignment template after re-installation. The cause is that the pressurizer geometry (based on CR-2025-1001 findings) deviated from the design input drawing.	Level 3	IBR
CR-2025-1069	Removal of Existing Weld Pad Material - It is likely that more than 1/16" depth is required to removal existing Alloy 82 pad on the Upper Nozzle V206 and Lower Nozzles V208 and V209 due to existing weld penetrant.	Level 3	IBR
CR-2025-1070	Indentation in the base metal	Level 3	IBR
CR-2025-1100	During inspection of the J-Prep on upper nozzle V204, there was a 'reject' on the go/no-go gauge for the depth of the j-prep as the j-prep was cut deeper than expected.	Level 3	IBR

Condition Reports

CR	Description	Level	Org
CR-2025-1102	Reference Point Established in Seq. 40 of Traveler 50-9385336-000 was Inadvertently Removed while Grinding Alloy 82 Weld Pad in Seq. 180.	Level 3	IBR
CR-2025-1126	Palo Verde Pressurizer Lower Nozzle RC-023 (V208) Defect Identified During Temper Bead Welding	Level 3	IBR
CR-2025-1161	Bore Depth Measured in Step 3A of Drawing 02-8164311-E-004 was Measured to be 1/16-inch Greater than the Max. Tolerance on the Drawing.	Level 3	IBR
CR-2025-1181	V206 Erosion/Wastage Identified in Low Alloy Steel	Level 3	IBR
CR-2025-1221	Nozzle RC-023 (V208) - Drill Depth Exceeded Maximum Tolerance As Shown On 02-8164311-E-004	Level 3	IBR
CR-2025-1222	Palo Verde Unit 1 Pressurizer Lower Instrument Nozzle RC-023 (V208) Piping Cut and Installed at the Incorrect Length	Level 3	IBR
CR-2025-1224	Interference Fit During Installation of Replacement Nozzle RC-023 (V208)	Level 3	IBR
CR-2025-1001	PV1 PZR Upper Nozzle Alignment Machine Mount Plate Installation	Level 3	IBRD
CR-2025-1173	Broken 1/4" Drill	Level 3	IBRD
CR-2025-0869	Vendor: Day & Zimmermann began travel to Palo Verde on March 17th, 2025. The PR was released to Purchasing on March 24th, 2025. PR 100013379 was approved without Sourcing Committee review.	Level 3	IBTSC
CR-2025-1120	Returned Palo Verde Shipping Frame and Reels	Level 3	ICTNMU
CR-2025-1383	Status of Existing Tubing Order Not Taken into Account during Incore Proposal Development	Level 3	ICTUI

Condition Reports

CR	Description	Level	Org
CR-2025-0779	Cost Overrun on Palo Verde Unit 1 PZR Nozzle Life of Repair project	Level 4	IBPE Staff
CR-2025-1021	As found condition under the Lower Pressurizer unit 1	Level 4	IBR
CR-2025-1206	Employee Involved in a Motor Vehicle Accident	Level 4	IBR
CR-2025-1237	Child CR for CR-2025-1222	Level 4	IBR
CR-2025-0944	Incorrect Nelson Studs Sent to Site	Level 4	IBRF
CR-2025-1113	Temper Bead Weld Placed Out of Sequence	Level 4	IBRW

Stearns Roger Services FHE Support

Work Scope	Safety	Quality	Performance	Delivery	Comments
Browns Ferry 2R23 Watts Bar U2R6 Brunswick 2R27 Diablo 1R25 Farley 2R30 Comanche 1RF24					S • No safety events
					Q • Diablo – Minimal equipment issues. No issues on Stearns MC or SFBC • Farley – Lower number of equipment issues
					P • No human performance events • Diablo – Stearns Techs and Westinghouse (PaR) Techs continue to both be contracted for the outage. Stearns Tech is the only FHE support requested to stay during no mode
					D • BFN – Lost communications on operator control console (0654) • WBN – No major delays to fuel offload/reload • BNP – No major delays to fuel offload/reload • Diablo – Transfer system hoist required clutch adjustment. Note that transfer system is under contract to be upgraded by Westinghouse. • Farley – Transfer system resolver pin came loose. War room response resulted in efficient resolution. • Comanche – MC overloads – not fuel handling equipment related. Fuel handling equipment functioned as designed. Note: Westinghouse started installation of Manipulator Crane controls and mast upgrades at the end of reload. Only SFBC at Comanche U1 & U2 will be OEM Stearns equipment going forward.

Condition Reports

BROWNS FERRY			
CR	Description	Level	Org
CR-2025-0572	Mast Power Cable Reel and Cable Damaged	Level 3	IBO Outage Services
CR-2025-0654	Browns Ferry Operator Control Console Lost Signal	Level 3	IBOS Stearns Roger Sv
CR-2025-0662	Fuel assembly came in contact with the cattle shoot	Level 3	IBOS Stearns Roger Sv
CR-2025-0772	Possible Fuel Movement Error (Wrong Location)	Level 4	IBO Outage Services

VOC Surveys

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
VOC 2025-0098	2025S Brunswick 2R27 SRS FHE	Shannon Thompson	Other	No	PETERSON, James	10	Staffing (technicians) is a huge strengths. Knowledgeable, experienced staffing. Shannon has no negatives to say about his experience or what Stearn provides from an organization.	No comments for room for improvement,

IOM	Kirt Benson
SS	Jonathan Scruggs
PM	Jeff Ross
PE	Bryce Cummins
KM	TBD

Callaway RF27

(3/29-4/29)

Work Scope	Safety	Quality	Performance	Delivery	Comments
PWR Refuel Services Seal Table Thimble Tube Cleaning					No on-site safety issues S Team recognized by Ameren CNO for safe work practices Hit deer on the way home from work (1064)
					Q Shoe Horn Cable Dislodged From Shoe Horn (1164) All Seal Table and Pressure Boundary work complete with FTQ
					P No Human Performance Issues
					Windows 3, 4 and 7 completed a combined 28 hours ahead of schedule D Unable to remove Specimen Plug (1011) Live Core Verification setup but not utilized due to lack of RE Support
SRS FHE Support					S No safety events
					Q Redundant encoder not working, temporary fix in place
					P No human performance events
					D Minor equipment issues, minimal downtime. No significant delays to fuel offload/reload

IOM	Kirt Benson
SS	Jonathan Scruggs
PM	Jeff Ross
PE	Bryce Cummins
KM	TBD

Callaway RF27

(3/29-4/29)

Work Scope	Safety	Quality	Performance	Delivery	Comments
NDE H8 VT Exam					S Zero OSHA Recordables or First-Aids
					Q Delivered H8 video of under head in 4 minutes, 28 mrem
					P
					D Inspected H8 Drive Shaft Inspected H8 CRGT guide cards Inspected H8 CRDM latch mechanisms Could not deliver Wholer camera underhead without thermal sleeve present FOAK CRGT camera on a pole
NDE BMN Emergent					S Zero OSHA Recordables or First-Aids
					Delivered Axial and Circ ID UT data for all 58 nozzles Q Delivered VT-1 exams on OD of all 58 nozzles Did not complete required Eddy Current testing
					P Over-schedule: Mutiple attempts at Eddy Current, Discrepancy of data analysis on nozzle 48, Learning curve on acquiring data
					D BMN UT BMN ECT No Data Acquired

IOM	Kirt Benson
SS	Jonathan Scruggs
PM	Jeff Ross
PE	Bryce Cummins
KM	TBD

Callaway RF27

(3/29-4/29)

Work Scope	Safety	Quality	Performance	Delivery	Comments
RCP Field Services <ul style="list-style-type: none"> RCP D Pump Replacement RCP C Motor RCP A Seal Motor PMs 					S Zero OSHA Recordables and First Aids Dropped Object – Dropped RCP stud (0986) RCP Crew failure to recognize fall protection requirements (1094) ALARA Dose Accumulated at 74% of Goal
					Q Work performed with 1 st time Quality Lessons Learned Captured and Documented
					P Area for Improvement with Schedule & Work Packages Water leaked from seal injection line when down-ending the pump cask into the shipping container. Water level in RCS when pump was “burped” – LL used pipe plugs to capture water (1078) Impeller Shipping Container Gaskets UNSAT requiring reword at site (1150)
					D Crew size to be re-evaluated for RF28 Outage Scopes Completed Successfully Emergent Work Scope Completed Successfully

IOM	Kirt Benson
SS	Jonathan Scruggs
PM	Jeff Ross
PE	Bryce Cummins
KM	TBD



- Working at heights
- Mobile work equipment
- Lifting operations
- Lock-out / tag-out
- Confined space

Callaway RF27

(3/29-4/29)

Work Scope	Safety	Quality	Performance	Delivery	Comments
CRR Emergent H8 Repair					S 1 Vehicle Accident – Involved hitting a deer (1064)
					Q
					P
					D
CRR Emergent BMN Repairs					S Report Only - Employee looked up to trace cabling and a drop of water fell in his eye (1523) Personal Medical – Subcontractor seen off-site due to high BP (1522) 1 Vehicle Accident – Involved hitting a deer (1551)
					Q
					P
					D

Callaway

Human Performance Observation Dashboard

Thur Weekly Data

Safety Cause...

Open Review

Implementation

Decomp Tree

Record Search

Clear Filters

Select BU:

Business Unit

Orange = Selected

Site

IB

HU OBS Initiated

414

HU OBS Count*

414

Safety HU OBS**



169

Top 5 Killer (All)

63

Data updated thru:

05/26/25 03:56

Select Time period:

Initiated On Date(s)

2/1/2025



5/31/2025



Criticality %

Below Std / HU OBS Count

30%

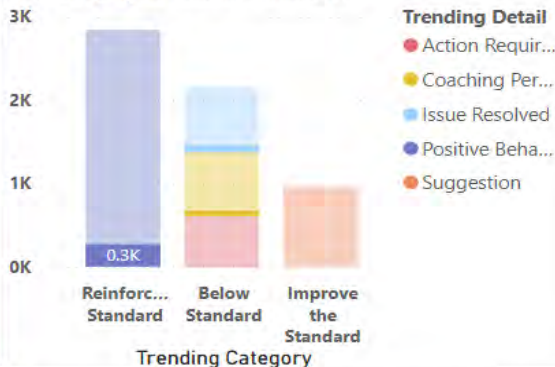


Description Text Search

Search

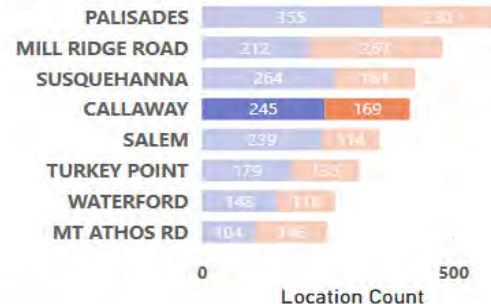


Trending Type Count - Initiated

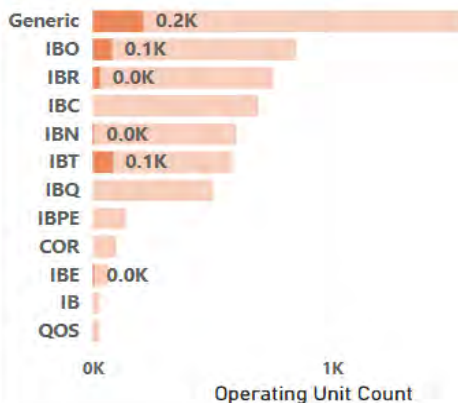


Location Count - Initiated

Safety ● Non-Safety ● Safety

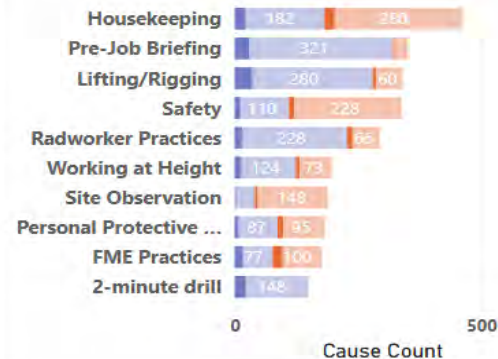


Originator Operating Unit Count - Initiated



Cause Count - Initiated

Self Critical? ● No ● Yes



*Excludes "Improve the Standard" and filtered on "Good Quality".

** Closed HU OBS for Safety-related causes

Observation Type

All

▪ Refuel Services

- Long Handle Tool Checkouts
- Rx Service Staging / Setup
- Checkout Spent Fuel Handling Tools
- Tool Inventory/Box Inventory
- Reactor Head Disassembly & Seal Table Disassembly
- Reactor Stud Cleaning
- Unlatch CRDS, Core Offload, FOSAR
- Support Head Stand work
- Support Polar Crane work
- Live Core Verification, SFP mapping, & Component Shuffle
- Core Reload, Latch CRDS
- Reactor Head Re-Assembly & Seal Table Re-Assembly
- Specimen Plug replacement
- Support Westinghouse Fuel measurements (Run Manipulator Crane)
- Support NDE exams and head extension work

▪ NDE – H8 VT Exam

- Visual inspection of H8 CRDM drive shaft
- Visual inspection of all H8 CRGT cards
- Visual inspection of ID H8 thermal sleeve and CRDM latches
- Visual inspection of OD H8 thermal sleeve

▪ RCP

- Perform Motor PMs
- Remove C Motor and Replace with D Motor
- Remove D Motor and Replace with refurbished Motor
- Remove and Replace A & D seals
- Remove and Replace D RCP Rotating assembly

▪ Stearns Roger Services

- Pre-outage
 - Console checks
- Outage
 - Pre-op checks on RFM and XFER system
 - Support RFM, XFER System and SFB as required

▪ NDE – Emergent BMN Nozzle inspection

- VT 1 exams of all 58 nozzles
- UT circ and axial exams of all 58 nozzles
- Perform contingency ECT on nozzles

ALARA

Callaway RF27
(3/29-4/29)

	Goal(R)	Actual(R)
RFL	5.184	6.901

Condition Reports

CR	Description	Level	Org
CR-2025-0975	H8 Thermal Sleeve Remnant Found on Control Rod Guide Tube.	Level 2	IBR
CR-2025-1432	Callaway R27 NDE --- PC104 Will not complete boot sequence	Level 3	IBE
CR-2025-1443	Callaway R27 NDE --- Diffuser junction box 7501200 air intensifier started leaking inside box.	Level 3	IBE
CR-2025-1446	Callaway R27 NDE --- Faulty Pulser Card on BMN UT Tool	Level 3	IBE
CR-2025-1447	Callaway R27 NDE --- BMN UT CIRC Data Anomaly	Level 3	IBE
CR-2025-1507	Callaway R27 NDE --- SUSI Control Box Failure	Level 3	IBE
CR-2025-0818	Tool Malfunction Out of Box	Level 3	IBEO
CR-2025-1505	Motor Control Board Failure on LSA Climax Power Supply	Level 3	IBER
CR-2025-1573	GTVI issues persist, resolution often requires parts with long lead and repair times.	Level 3	IBER
CR-2025-1508	Callaway R27 NDE --- All industry FME Videos are stored on Google Cloud server by Trident	Level 3	IBNN
CR-2025-1494	Callaway R27 NDE --- Could not get any meaningful Eddy Current data on bottom mounted nozzles.	Level 3	IBNS
CR-2025-0999	Pin in Handlebars of Framatome Spent Fuel Handling Tool	Level 3	IBO
CR-2025-1011	Specimen Plug Unable to be Removed	Level 3	IBO
CR-2025-1023	HKE37 BPRA Tool not working properly (Mirrored) Site CR 202502025	Level 3	IBO
CR-2025-1026	RCCA R650 Bent Rodlet	Level 3	IBO
CR-2025-1164	Red Shohorn cable became dislodged	Level 3	IBO

Condition Reports

CR	Description	Level	Org
CR-2025-1198	HKE01 Touchscreen Issue During Refueling/ Mirrored Site CR 202502739	Level 3	IBOS
CR-2025-1115	Design Inputs Error or Inaccuracy in 12-9350920-000 Callaway Thermal Sleeve Wear Rate Assessment	Level 3	IBPE-E
CR-2025-0979	Quality Level Discrepancies for RCP Seal Items Supplied by Framatome-Jeumont	Level 3	IBPE-P
CR-2025-0933	Incorrect design inputs provided by customer.	Level 3	IBR
CR-2025-0936	Cannot install end bearing plate on Head Stand	Level 3	IBR
CR-2025-0970	Unable to complete installation of head stand extension components.	Level 3	IBR
CR-2025-0986	Dropped object	Level 3	IBR
CR-2025-1078	Water leaked from RCP CCW/Seal Injection lines when downending into shipping container.	Level 3	IBR
CR-2025-1160	RCP Shipping container 9260033 seals found to be unacceptable for shipment	Level 3	IBR
CR-2025-1320	Shipping container gasket equivalent	Level 3	IBR
CR-2025-1502	Vacuum gauge on cofferdam installed on BMN 48 at Callaway not reading vacuum pressure	Level 3	IBR
CR-2025-1538	Blue Weld Head Cross Seam Issues	Level 3	IBR
CR-2025-1564	Weld dam in BMI Nozzle 48 at Callaway is misaligned to the nozzle bore	Level 3	IBR
CR-2025-1591	BMI N48 J-Prep Failed Go-Gauge Inspection	Level 3	IBR
CR-2025-1592	Machining of BMI N48 failed positional tolerance check	Level 3	IBR
CR-2025-1597	Callaway Nozzle 48 Bore PT Rejected	Level 3	IBR

Condition Reports

CR	Description	Level	Org
CR-2025-1622	N30 Pad Weld	Level 3	IBR
CR-2025-1631	Nozzle 48 Guide Tube Fit-up out of Tolerance	Level 3	IBR
CR-2025-1523	Employee Got Water in Eye	Level 3	IBRF
CR-2025-0490	1.5-6 fastener for the thermal barrier to bolting ring Westinghouse P/N 922A889H19 is found to be yielded and cannot be installed	Level 3	IBRP
CR-2025-1051	Shaft Retention Device hardware is incorrect	Level 3	IBRP
CR-2025-1068	When downending Callaway RCP into the shipping container potential interference is identified that a CCW Pipe flange would contact the bottom of the container prior to the cask trunnions landing into the shipping cask saddles.	Level 3	IBRP
CR-2025-1092	D Motor Stand would not install with guide studs already installed.	Level 3	IBRP
CR-2025-1096	Stud #20 would not thread fully into the casing	Level 3	IBRP
CR-2025-1121	Callaway seal installation - The seal package insert support collar would not fully engage	Level 3	IBRP
CR-2025-1254	Impeller Nut is unable to be removed on Callaway RCP	Level 3	IBRP
CR-2025-1463	Customer PO is not yet received this CR documents installation into the Decontamination tank.	Level 3	IBRP
CR-2025-1223	PCE on Worker after Upper Cavity Entry	Level 3	IBTEHS
CR-2025-1518	Class 7 shipment received from Callaway with insufficient DOT markings	Level 3	IBTEHS
CR-2025-1606	Non-covered worker supporting Callaway BMI Nozzle Repair Exceeded 72 hours in 7 days and was not on a waiver	Level 3	IBTEHS

Condition Reports

CR	Description	Level	Org
CR-2025-1397	Pre-jo brief form adds	Level 4	IB Services
CR-2025-1163	The metal actuator lever of a toggle switch on the front of an RJ camera controller broke off, and was found on the floor of the RX Refueling Bridge.	Level 4	IBEO
CR-2025-0702	Reactor Services Pre-Outage Work Delay Due to ESW Concerns	Level 4	IBO
CR-2025-0915	Hit deer on the way home from work	Level 4	IBO
CR-2025-1123	B-52 Bent Cell Location in Spent Fuel Pool (Mirrored Site CR 202502414)	Level 4	IBO
CR-2025-1148	Deer hit on the way home from work	Level 4	IBO
CR-2025-1162	Stud Hole Plug Found Out of Hole	Level 4	IBO
CR-2025-1262	Pothole hit on the way home from work with minor damage to rental car.	Level 4	IBO
CR-2025-1395	Accident on the way home from work - no injuries reported	Level 4	IBO
CR-2025-1399	First Report-Employee Tripped and Fell	Level 4	IBO
CR-2025-1451	Rental Car Damage	Level 4	IBO
CR-2025-1501	Remnant of Thimble separated causing Foreign Material in Reactor Vessel/Mirrored Site CR#202503461	Level 4	IBO
CR-2025-1509	Guide Tube Cap for Seal Table	Level 4	IBO
CR-2025-1546	Minor vehicle accident with Minor damage	Level 4	IBOP
CR-2025-1064	Hit deer on the way home from work	Level 4	IBQPIS

Condition Reports

CR	Description	Level	Org
CR-2025-0676	Incorrect Parts Ordered by Fabricator	Level 4	IBR
CR-2025-0748	Lateral Movement in Callaway Shield Rack Assembly	Level 4	IBR
CR-2025-1551	Deer Collision	Level 4	IBR
CR-2025-1522	Subcontractor Personal Medical	Level 4	IBRF
CR-2025-1094	Technicians initially failed to identify fall protection requirements	Level 4	IBRP
CR-2025-1170	Oil Cooler Leak Detector wiring terminal obstructed by gate valve attached to RCPM D	Level 4	IBRP
CR-2025-1178	Callaway "D" RCPM Lower Bearing Cooling Coil Dresser Coupling is leaking	Level 4	IBRP
CR-2025-1469	Callaway RCP shipment difficulties	Level 4	IBRP
CR-2025-1561	Motor vehicle accident on the way to work	Level 4	IBTEHS

VOC Surveys

Identifier	Project Title	Customer	Role	Key Decision Maker?	Interviewer	Rating	Strength	Opportunity for Improvement
VOC 2025-0097	2025 S CALLAWAY RF27-1 EMERGENT SUPPORT	Carissa Richardson	Other	No	CRAFT, Quinton	8	Taking responsibility of the work, understand the importance of the work being performed and take it seriously. Willing to provide professional guidance to assist the station in decision making with the understanding that the final decision is up to the station.	Get better at explaining details of what is happening with data signals and explain it in laymen's terms so that people that know nothing about NDE will understand.
VOC 2025-0095	2025 S CALLAWAY RF27 OUTAGE SERVICES	Shane Steeves	Other	No	CRAFT, Quinton	10	See question 1. Willingness to help with boron on head.	Better focus abilities on whole camera
VOC 2025-0007	Callaway 93A1 Inspection	Bo Wyatt	Other	No	MALONE, Ed	10	Communication - identified issues quickly - weekly meetings & organization Very happy with support from Framatome	Felt FRA could have worked better with Millstone in getting the coupling & spool piece.

IB-A Fundamental Scorecard

SAFETY

OSHA Recordables		First-Aids		Confined Space		Working at Heights		Mobile Work Equipment		Lifting / Rigging		LOTO		Radiological Safety	
F-24	↓	F-24	→	F-24	→	F-24	↓	F-24	→	F-24	↑	F-24	→	F-24	→
Dropped Objects		PPE Compliance		Total FFD		Fatigue Management		Heat Stress		Housekeeping		Reactivity Mgt. / Fuel Handling		Risk Mgt. (JHA)	
F-24	↓	F-24	→	F-24	→	F-24	→	F-24	↑	F-24	→	F-24	→	F-24	↓

QUALITY

FME		Documentation Errors		Planning & Preparation		Equipment Failure		Software Failure		Part/ Product Return		Training Quals		Rework		Security		Procedure Quality Issues	
F-24	↑	F-24	↑	F-24	→	F-24	↑	F-24	→	F-24	↑	F-24	↑	F-24	↓	F-24	↑	F-24	↓

PERFORMANCE

Human Performance Event Rate		Observation Criticality		Pre-Job Brief		Verification Practices		Stop When Unsure		Procedure Use & Adherence		Questioning Attitude	
F-24 (1.38)	↓ 1.88	F-24 (44.0%)	38.41%	F-24	↓	F-24	→	F-24	↓	F-24	↓	F-24	↓
Self-Check (STAR)		Peer Checking		Turnover		Situational Awareness		Two Minute Drill		Communication			
F-24	↓	F-24	→	F-24	→	F-24	↓	F-24	↓	F-24	→		

DELIVERY

Schedule		VOC		Innovation	
F-24	↓	F-24	→	F-24	→

Note: Supporting justification for red / yellow tiles are located at the back of this PowerPoint

Window
Adverse Events
Focus Area
Good Performance
Exceeds Expectations

Spring 2025

Human Performance Observation Dashboard



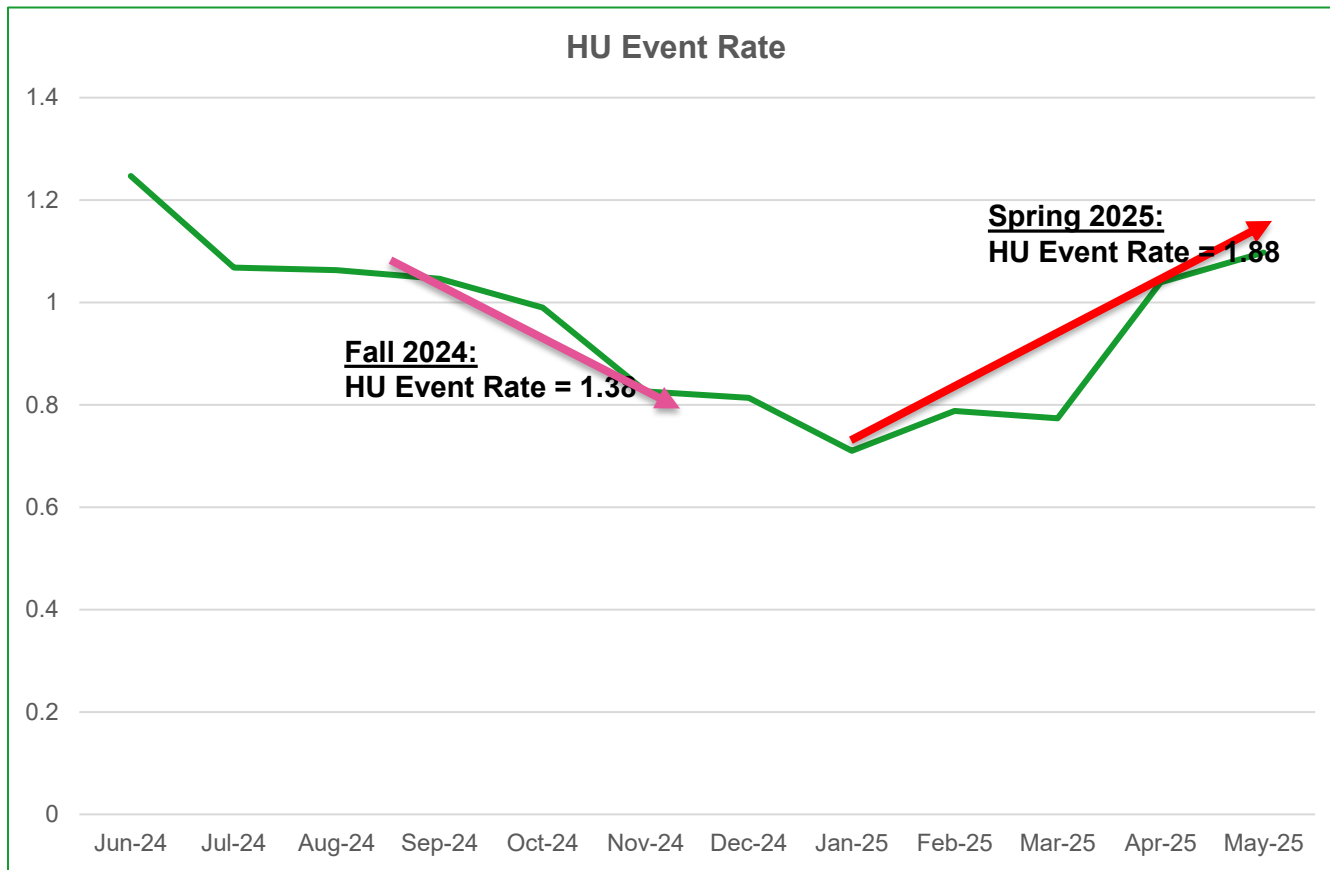
Human Performance Clock Reset Events

Identifier	Description	Location	Criteria	Lessons Learned
CR 2025-0369	Slip and fall on ice	Palisades	OSHA Recordable Injury	<ul style="list-style-type: none"> Risk identification Situational awareness
CR 2025-0402	System One Contractor stepped through hole in grating	Palisades	OSHA Recordable Injury	<ul style="list-style-type: none"> Risk identification Hazard mitigation / elimination
CR 2025-0406	Communication / Retrieval of FME Below Standard	River Bend	Management Discretion	<ul style="list-style-type: none"> Standards adherence PJB / Risk Recognition
CR 2025-0408	Fuel moves stopped due to communication/coordination issue with inclined fuel transfer system	River Bend	Management Discretion	<ul style="list-style-type: none"> Environmental factors / Risk Recognition Verification Practices / Effective Communication
CR 2025-0432	Wall hanger dislodged by refueling crew	River Bend	5TK Near Miss	<ul style="list-style-type: none"> Risk Recognition (group think) Turnover
CR 2025-0657	Individual twisted ankle exiting containment	Palisades	OSHA Restricted Duty	<ul style="list-style-type: none"> Body positioning / Situational awareness
CR 2025-0815	Baffle Plate #7 Inadvertently skipped during Baffle Plate Exams	Turkey Point	Management Discretion	<ul style="list-style-type: none"> Verification practices Stop when different
CR 2025-0679	Water Lance dropped object – indexer nut	Turkey Point	5TK Near Miss	<ul style="list-style-type: none"> 2-minute drill Questioning attitude
CR 2025-0986	Dropped Object – ‘C’ RCP Motor Replacement	Callaway	5TK Near Miss	<ul style="list-style-type: none"> Situational awareness Positive control of materials
CR 2025-1094	Technicians initially failed to identify fall protection requirements	Callaway	5TK Near Miss	<ul style="list-style-type: none"> 2 minute drill Situational awareness / changing conditions
HUOBS 2025-4604	Grinder contacted individual's leg, resulting in ripped PCs (no injury – near miss)	Palisades	Management Discretion	<ul style="list-style-type: none"> Body positioning / tool use Situational awareness
HUOBS 2025-5375	Incorrect Fall Protection Usage	Salem	Management Discretion	<ul style="list-style-type: none"> Questioning attitude Working at Heights requirements not met

Human Performance Clock Reset Events

Identifier	Description	Location	Criteria	Lessons Learned
CR 2025-1111	ED Dropped 40' into Cavity	Salem	5TK Near Miss	<ul style="list-style-type: none"> Self check Dropped Object Prevention requirements not met
CR 2025-1125	Hardhat Dropped into Lower Cavity	Salem	5TK Near Miss	<ul style="list-style-type: none"> Self check Dropped Object Prevention requirements not met
CR 2025-1153	Worker Observed Improperly Using Fall Protection Prior to Working at Heights	Salem	5TK Near Miss	<ul style="list-style-type: none"> Lack of understanding / knowledge of fall protection requirements (JHA – Hazard Recognition)
CR 2025-1152	Procedure Use and Adherence Issue	Susquehanna	Customer Clock Reset	<ul style="list-style-type: none"> Pre-job brief quality Procedure use and adherence / Critical Steps
CR 2025-1109	FME Devices Left in Component after Closure	DC Cook	Management Discretion	<ul style="list-style-type: none"> Self Checking Verification Practices
CR 2025-1005	Incorrect Fillet Weld was Cut While Working on the Piping Subassembly Connected to Valve V206	Palo Verde	Management Discretion	<ul style="list-style-type: none"> Questioning Attitude Procedure use and adherence
CR 2025-1002	Dropped 480V Extension Cord	Palo Verde	5TK Near Miss	<ul style="list-style-type: none"> Dropped Object Prevention Risk Recognition
CR 2025-1321	LVL -1 dropped object: RX head hoist rail transition piece dropped while removing from RX head	Millstone	5TK Near Miss	<ul style="list-style-type: none"> Risk Recognition Dropped object prevention
CR 2025-1511	Seal #1 Leakoff line flange leaking on 12 RCP	Salem	Customer Quality Event	<ul style="list-style-type: none"> Verification Practices Procedure Quality Work Planning

Human Performance Event Rate: Rolling 12 Months



MEETING CRITIQUE CHECKLIST		
PART	CHECKLIST	QUESTIONS
A	INPO 15-005 Leadership and Team Effectiveness Attributes	<p>Did we exhibit the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Set Direction <input type="checkbox"/> Maximize Competence <input type="checkbox"/> Engage Workforce <input type="checkbox"/> Cope with Risk <input type="checkbox"/> Achieve Sustainable Results <p>If not, discuss what could have been done better.</p>
B	INPO 12-012 Traits of a Healthy Nuclear Safety Cultures	<p>Did we exhibit the following?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Leadership Safety Values and Actions <input type="checkbox"/> Decision Making <input type="checkbox"/> Respectful Work Environment <input type="checkbox"/> Questioning attitude <input type="checkbox"/> Organizational Learning <input type="checkbox"/> Nuclear Safety undergoes constant examination <p>If not, discuss what could have been done better.</p>
C	Operational Alignment Meeting Guidelines	<ul style="list-style-type: none"> <input type="checkbox"/> Were attendees engaged in the meeting? <input type="checkbox"/> Did multiple people add to discussion during the meeting? <input type="checkbox"/> Were attendees distracted by cell phones or tablets? <input type="checkbox"/> Were attendees on time to the meeting? <input type="checkbox"/> Did anyone enter the room after the call started?

IB-A Fundamental Scorecard

Additional Information – Supporting information for Red/Yellow tiles

OSHA Recordable Injuries - RED

Basis: Three OSHA Recordable Injuries (L2 CRs) in Spring 2025

Identifier	Description	Location	Criteria	Lessons Learned
CR 2025-0369	Slip and fall on ice – Palisades	Palisades	OSHA Recordable Injury	<ul style="list-style-type: none">• Risk identification• Situational awareness
CR 2025-0402	System One Contractor stepped through hole in grating - Palisades	Palisades	OSHA Recordable Injury	<ul style="list-style-type: none">• Risk identification• Hazard mitigation / elimination
CR 2025-0657	Individual twisted ankle exiting containment	Palisades	OSHA Restricted Duty	<ul style="list-style-type: none">• Body positioning / Situational awareness

Working At Heights - YELLOW

Basis:

- 2 Product Line HU Clock Resets (5TK Near Miss – Working At Heights)
- 1 Management Discretion HU Clock Reset – Working at Heights requirements not met
- 37% Observation Criticality for 5TK – Working At Height
- 6 Dropped Object HU Clock Resets

Identifier	Description	Location	Criteria	Lessons Learned
CR 2025-1153	Worker Observed Improperly Using Fall Protection Prior to Working at Heights	Salem	5TK Near Miss	<ul style="list-style-type: none">• Lack of understanding / knowledge of fall protection requirements (JHA – Hazard Recognition)
HUOBS 2025-5375	Incorrect Fall Protection Usage _ Salem	Salem	Management Discretion	<ul style="list-style-type: none">• Questioning attitude• Working at Heights requirements not met
CR 2025-1094	Technicians initially failed to identify fall protection requirements _ Callaway	Callaway	5TK Near Miss	<ul style="list-style-type: none">• 2 minute drill• Situational awareness / changing conditions

Dropped Objects - RED

Basis:

- 6 Product Line HU Clock Reset (5TK Near Miss Events – Working at Heights w/ Dropped Object)
- 37% Observation Criticality for 5TK – Working At Height – Dropped Objects

Identifier	Description	Location	Criteria	Lessons Learned
CR 2025-0679	Water Lance dropped object – indexer nut	Turkey Point	5TK Near Miss	<ul style="list-style-type: none">• 2-minute drill• Questioning attitude
CR 2025-0986	Dropped Object – ‘C’ RCP Motor Replacement at Callaway	Callaway	5TK Near Miss	<ul style="list-style-type: none">• Situational awareness• Positive control of materials
CR 2025-1111	ED Dropped 40’ into Cavity _ Salem	Salem	5TK Near Miss	<ul style="list-style-type: none">• Self check• Dropped Object Prevention requirements not met
CR 2025-1125	Hardhat Dropped into Lower Cavity _ Salem	Salem	5TK Near Miss	<ul style="list-style-type: none">• Self check• Dropped Object Prevention requirements not met
CR 2025-1002	Dropped 480V Extension Cord	Palo Verde	5TK Near Miss	<ul style="list-style-type: none">• Dropped Object Prevention• Risk Recognition
CR 2025-1321	LVL -1 dropped object: RX head hoist rail transition piece dropped while removing from RX head	Millstone	5TK Near Miss	<ul style="list-style-type: none">• Risk Recognition• Dropped object prevention

Risk Management (JHA) - RED

Basis:

- 8 Product Line HU Clock Resets with a cause of inadequate risk recognition / management and weaknesses with JHA
- 3 OSHA Recordable Injuries (L2 CRs)

Equipment - RED

Basis:

- 131 L3 CRs documenting equipment deficiencies
- 27 L4 CRs documenting equipment deficiencies
- NOTE: Occurrence rate improved from Fall 2024
 - Fall 2024: 4.64 occurrence rate
 - Spring 2025: 2.44 occurrence rate

Documentation Errors - RED

Basis:

- 32 L3 CRs documenting documentation errors
- 10 L4 CRs documenting documentation errors
- NOTE: Occurrence rate improved from Fall 2024
 - Fall 2024: 3.49 occurrence rate
 - Spring 2025: 2.44 occurrence rate

Parts / Product Quality - YELLOW

Basis:

- 16 L3 CRs documenting parts/product deficiencies
- 3 L4 CRs documenting parts/product deficiencies
- NOTE: Improvement from Fall 2024 (RED performance in Fall 2024)

Rework - YELLOW

Basis:

- 14 L3 CRs documenting rework
- 2 L4 CRs documenting rework
- HU Clock Resets that resulted in Rework / adverse customer impact

Identifier	Description	Location	Criteria	Lessons Learned
CR 2025-1152	Procedure use and adherence issue	Susquehanna	Customer Clock Reset	<ul style="list-style-type: none">• Pre-job brief quality• Procedure use and adherence / Critical Steps
CR 2025-1109	FME Devices Left in Component after Closure	DC Cook	Management Discretion	<ul style="list-style-type: none">• Self Checking• Verification Practices
CR 2025-1005	Incorrect Fillet Weld was Cut While Working on the Piping Subassembly Connected to Valve V206	Palo Verde	Management Discretion	<ul style="list-style-type: none">• Questioning Attitude• Procedure use and adherence
CR 2025-1511	Salem – Seal #1 Leakoff line flange leaking on 12 RCP	Salem	Customer Quality Event	<ul style="list-style-type: none">• Verification Practices• Procedure Quality• Work Planning
CR 2025-0815	Baffle Plate #7 Inadvertently skipped during Baffle Plate Exams	Turkey Point	Management Discretion	<ul style="list-style-type: none">• Verification practices• Stop when different

Procedure Quality Issues - RED

Basis:

- 8 L3 CRs documenting procedure quality issues
- 2 L4 CRs documenting procedure quality issues
- 3 HU Clock Resets with procedure quality / PU&A as a contributing factor

Identifier	Description	Location	Criteria	Lessons Learned
CR 2025-1152	Procedure use and adherence issue	Susquehanna	Customer Clock Reset	<ul style="list-style-type: none">• Pre-job brief quality• Procedure use and adherence / Critical Steps
CR 2025-1005	Incorrect Fillet Weld was Cut While Working on the Piping Subassembly Connected to Valve V206	Palo Verde	Management Discretion	<ul style="list-style-type: none">• Questioning Attitude• Procedure use and adherence
CR 2025-1511	Salem – Seal #1 Leakoff line flange leaking on 12 RCP	Salem	Customer Quality Event	<ul style="list-style-type: none">• Verification Practices• Procedure Quality• Work Planning

Human Performance Event Rate - RED

Basis:

- Decline in performance from Fall 2024
 - Fall 2024: 1.38
 - Spring 2025: 1.88
- 14 HU Clock Resets (excluding management discretion clock resets)
- 3 OSHA Recordable Injuries
- 10 5TK Near Miss HU Clock Resets

Pre-Job Brief - YELLOW

Basis:

- 2 HU Clock Resets with PJB weaknesses as directly causal
- 8 HU Clock Resets citing JHA weaknesses as contributing
- 9% criticality of PJB HU Observations

Procedure Use & Adherence (PU&A) - YELLOW

Basis:

- 3 HU Clock Resets with procedure quality / PU&A as a contributing factor
- 27% criticality of PU&A HU Observations

Questioning Attitude - RED

Basis:

- 3 HU Clock Resets with inadequate Questioning Attitude as causal
- 3% criticality of PU&A HU Observations

Self-Checking (STAR) - RED

Basis:

- 3 HU Clock Resets with inadequate self-checking as causal
- 33% criticality of PJB HU Observations

Situational Awareness - RED

Basis:

- 5 HU Clock Resets with inadequate situational awareness as causal
- 24% criticality of PU&A HU Observations

Two Minute Drill - YELLOW

Basis:

- 2 HU Clock Resets with inadequate two-minute drill as causal
- 1% criticality of PU&A HU Observations



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Custom industrial equipment since 1971

An established name in the industry



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How we partner with our clients

1 BUILT-TO-PRINT (BTP)

We manufacture to your design with high precision using our mechanical, electrical, and automation skills.

3 CONTRACT MANUFACTURING (CM)

We assist with design, manufacturing, and even quality control, to suit your needs and enable fast scale-up.

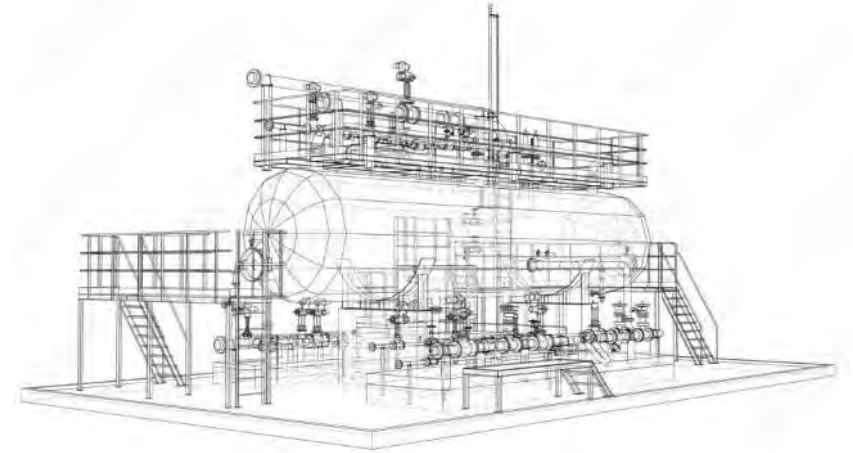
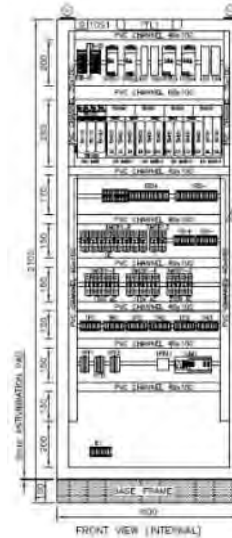
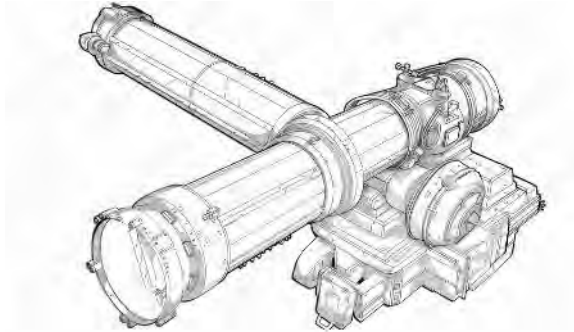
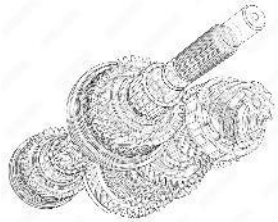
2 BUILT-TO-SPECIFICATIONS (BTS)

We manufacture to your technical or functional specifications using our capabilities including engineering.

4 SERVICE & COMMISSIONING

We ensure smooth handover of your equipment all the way from FAT, delivery, to installation, SAT, to ramp up.

A broad range of possibilities



**From parts & tooling, to complex assembly, to electrical cabinets,
to custom machines, to entire production lines.**

The companies who already trust us



Manufacturing sector

New equipment, refurbishment, and subcontracting.

Expertise in complex parts, subassemblies, custom machines, full production lines, and electrical panels.

- Winding and unwinding equipment
- Cutting equipment
- Wiring machines
- Robotic machine (un)loading
- Etc.



Among our clients:

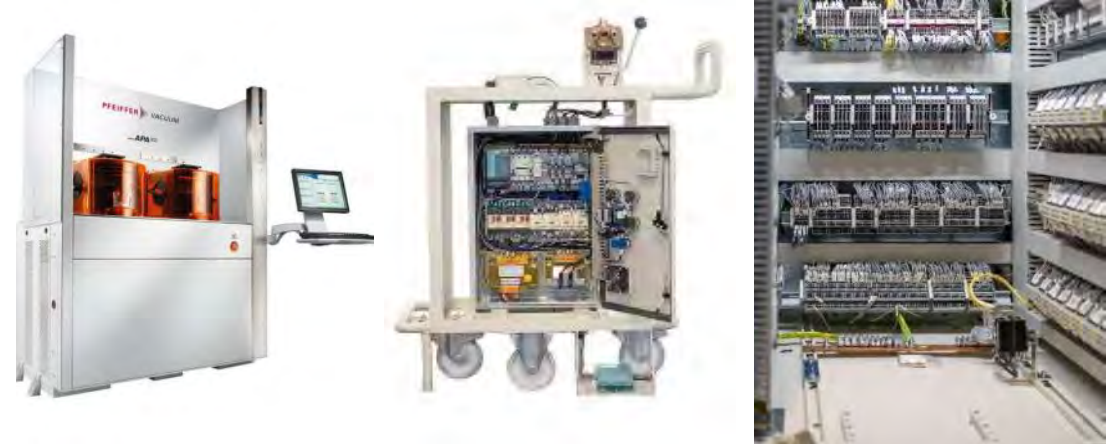


Electrical & semiconductor industries

New equipment, maintenance, and subcontracting.

Expertise in subassemblies, custom machines, full production lines, and electrical panels.

- Electrical panels one-offs and series
- Wafer handling machines
- Onboarded electrical mobile equipment
- Hydro-electric turbines parts
- Etc.



Among our clients:



Nuclear industry - Reactors

New equipment, maintenance, and subcontracting.

Expertise in complex parts, subassemblies, custom machines, and electrical panels.

- PWR and BWR, ERP, SMR equipment
- Dismantling equipment
- Moving and handling systems
- Fuel (un)loading equipment
- Etc.



Among our clients:

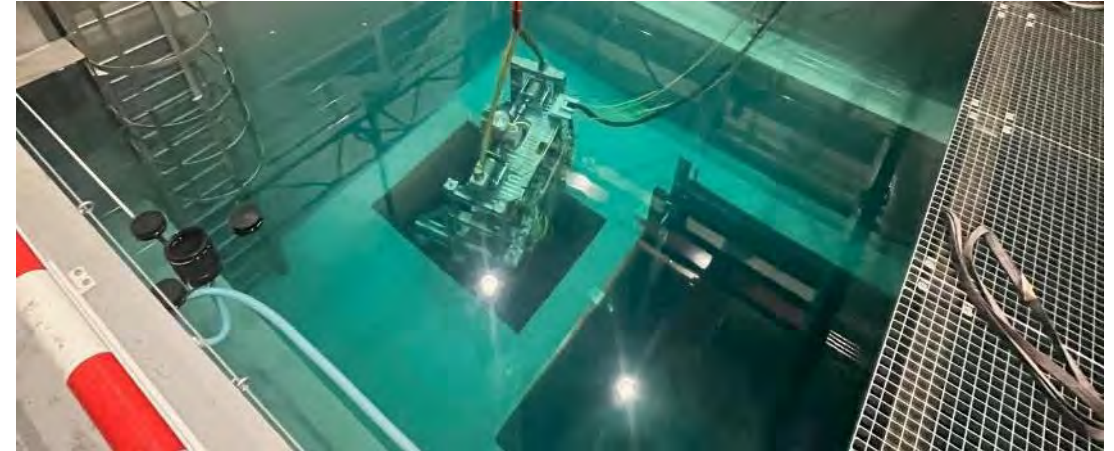


Nuclear industry - Fuel

New equipment, maintenance, and subcontracting.

Expertise in complex parts, subassemblies, custom machines, and electrical panels.

- Fuel enrichment
- Used fuel discarding containers
- Robotic fuel rods welding
- Fuel (un)loading equipment
- Medical nuclear
- Etc.



Among our clients:



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H3D



About H3D

- **Spectrometers and Imaging Spectrometers**

- CZT, a room-temperature semiconductor detector
- Capable of better than 0.8% FWHM at 662 keV
- Isotope-specific imaging capability
- Isotopic trending

- **Sales Record:**

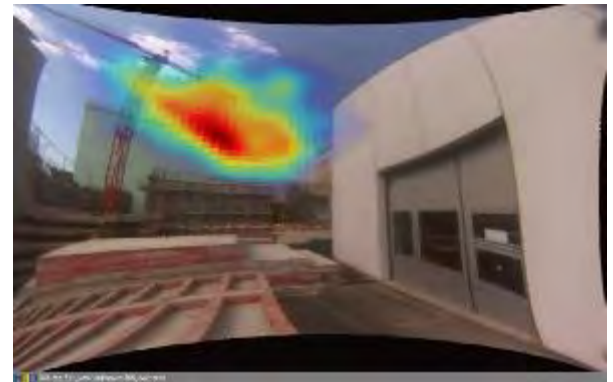
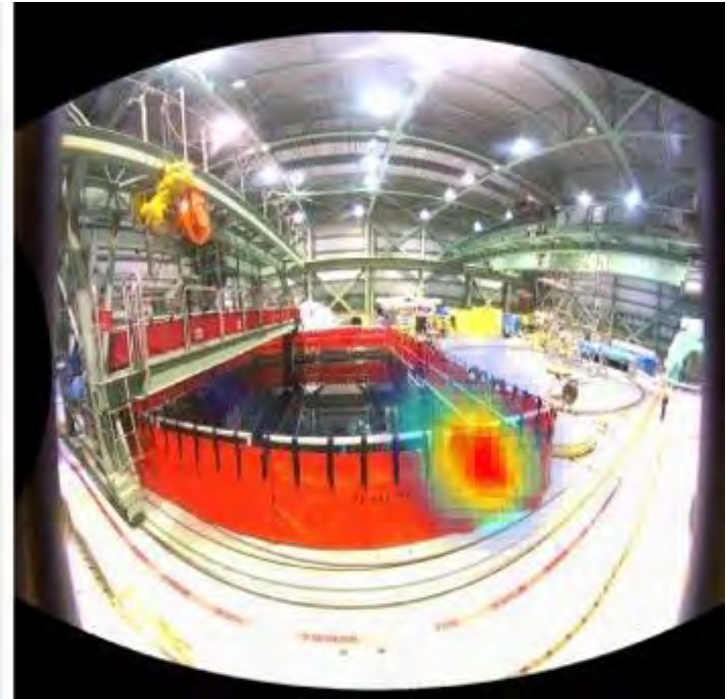
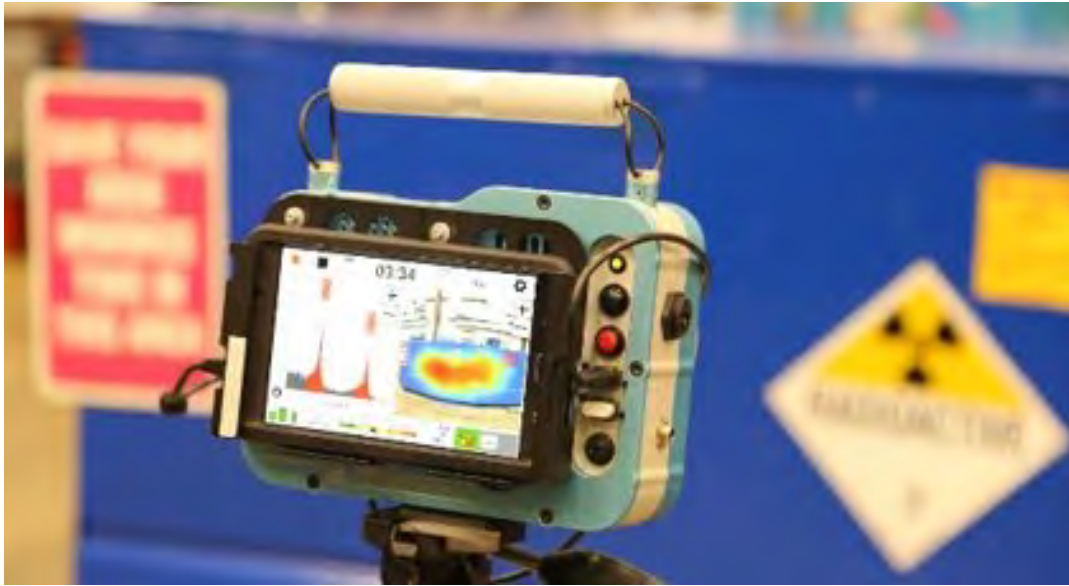
- Sold over 250 H-Series units worldwide
- Sold over 700 units of all types
- Used at over 80% of US NPPs

- **Applications:**

- Nuclear Power
- Homeland Security
- CBRNE
- Safeguards
- Medical
- Waste

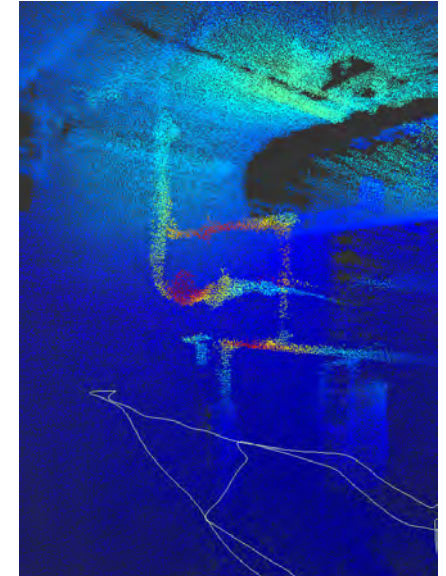


3D-CZT Images Gamma Rays



GammAware 3D LiDAR Imaging

- GammAware is an add-on to H3D imagers
 - enable the overlay of radiation hot spots onto a 3D model of the scanned area
- Create images and radiation maps enabling virtual navigation around the area. New capabilities can be unlocked:
 - Improved source-term maps and dose-rate visualization tools
 - Shielding evaluations
 - Tools for time-motion ALARA dose estimations
 - Accurate characterization for waste shipments and storage
- Can purchase as add-on to owned M & H detectors



3D Imaging with Existing H-Series

- GammAware sensors mounted to handle attachment
 - Uses combination of LIDAR, optical and tracking cameras
 - Embedded computer to generate 3D point cloud of environment
- Real-Time 2D top-down map shown on tablet
- Post-processing with Visualizer 3D for in-depth analysis of results



Approximate Specs:

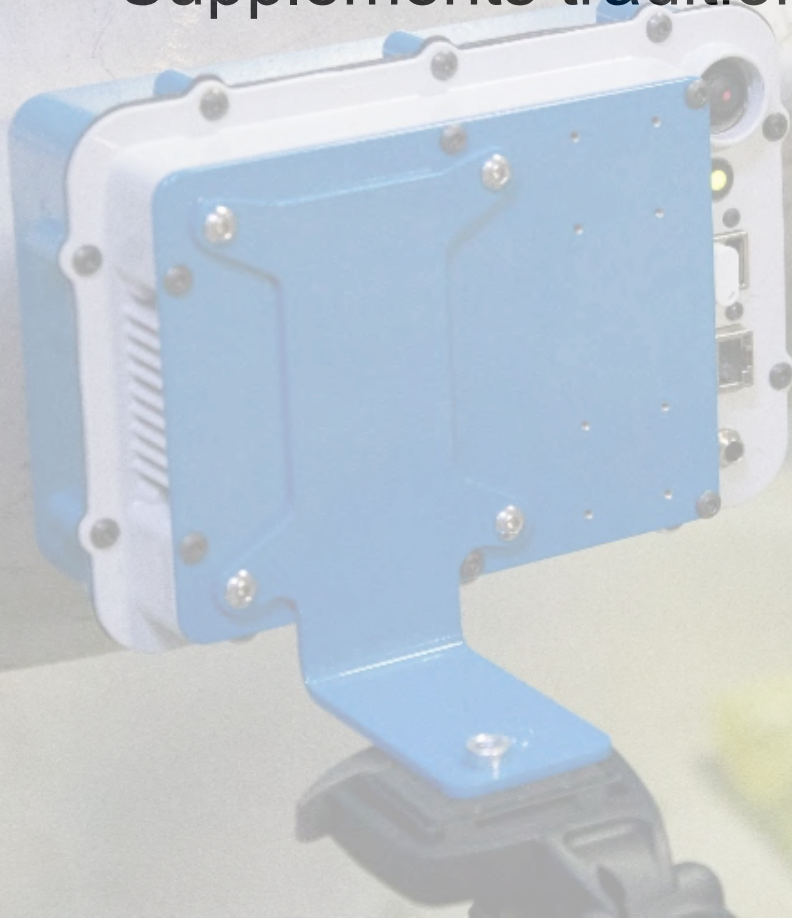
- 10 kg
- 2 hr battery life
- Radiation specs match detector used with GammAware

Example GammAware Measurement

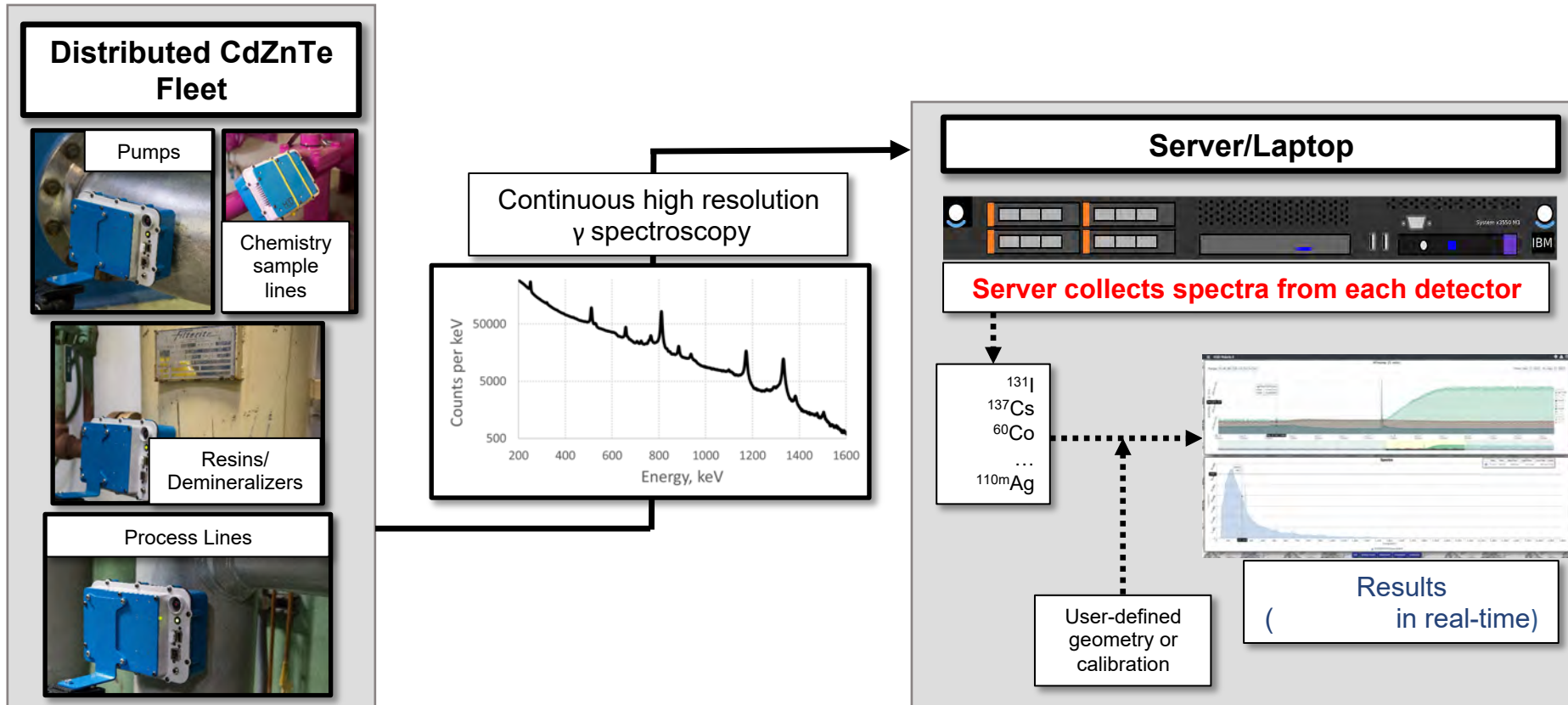


GammaTrend Introduction

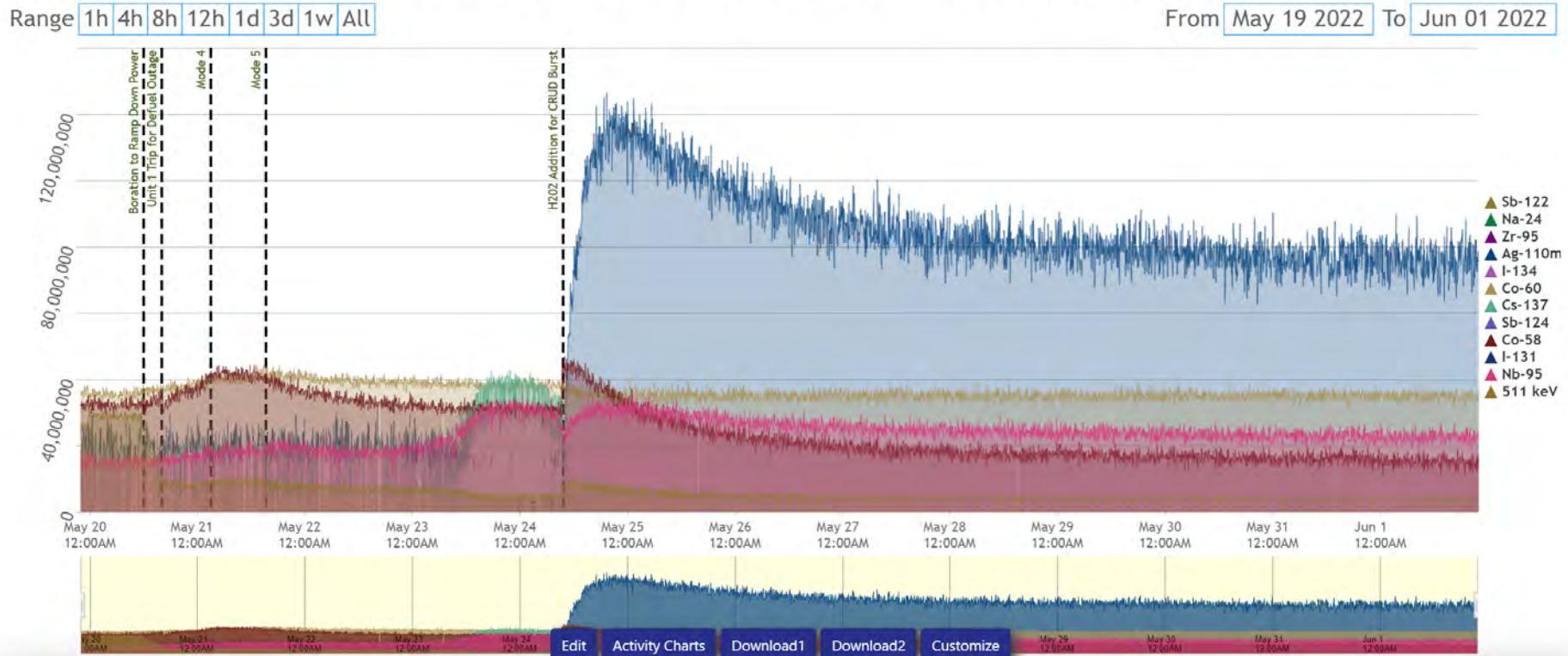
- Field-deployable gamma spectroscopy and software tools to monitor radionuclide trends over time.
- Supplements traditional Chemistry water sampling:
 - Minute-by-minute (continuous) results
 - Much more data than manual sampling
 - Detailed understanding of when changes occurred to facilitate learning
 - Better understanding of how transport of radionuclides occurs, including differences in soluble and insoluble species



GammaTrend Setup



GammaTrend Results





H3D, Inc.

Questions?



Innovative Industrial Solutions





Innovative Industrial Solutions

Product And Service Update

Stan Robinson

WiFi Battery Powered Camera



- High quality image with 2MP, 1/2.9"CMOS sensor
- 2MP (1920*1080)@30/25fps; 720P (1280*720)@30/25fps
- Ultra 265, H.265, H.264, MJPEG
- Built-in Mic
- Smart IR, up to 30m (98ft) IR distance
- Supports 128 G Micro SD card
- IP67 protection
- 3-Axis
- Weight-4.5 lbs with Magnet mount



Battery Electrical Specifications

Battery Charger



9.0 Amp/Hr Rechargeable Batteries

- [Battery Specifications] Voltage: 12 Volt | Capacity: 9000 mAh | Brand New | Rechargeable | high quality battery cells.
- [Compatible Model] 100% Compatible with Milwaukee 12V XC 48-11-2131 48-11-24[11 48-11-2430 Cordless Power Tools, Perfectly Compatible With Battery 12V Charger.
- [High Quality] A high-quality battery cell provides long-lasting performance. The battery shell is made of durable material to protect the battery cell. The precise design allows the battery to be installed and removed.
- [Safety] The Integrated microchip provides various protections to the battery to prevent incorrect voltage, battery overload, short circuit, and internal heating and enhance the battery life.
- **60 hour run time on two fully charged batteries and 30 minute recharge time!**

KEY FEATURES

- ✓ 25X optical zoom, endless pan, high speed PTZ
- ✓ **TwilightVision™** technology superior low-light performance
- ✓ Smart IR up to 100m (328 ft)
- ✓ Auto tracking of persons and vehicles
- 158 Temp rating
- Splash proof water

IIS PTZ Extreme dome camera





INNOVATIVE INDUSTRIAL SOLUTIONS, INC.

Access COntrol

Lasalle Turnstile





INNOVATIVE INDUSTRIAL SOLUTIONS, INC.

Exchangeable Plug Connector

PTZ camera can plug into the **telescopic pole** or plug in the **cable** to meet users different requirements



WHAT'S NEW IN 2024



HALO 3C smart sensor Overview

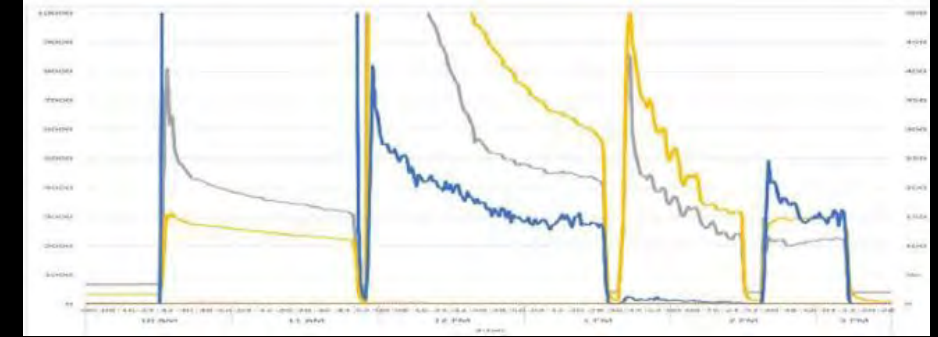


- Data Capture
 - 16 Sensors
- Data Storage
 - Local Database
- Data Processing
 - Edge (in device) Processing
 - Cloud Processing
- Communications
 - Email/SMTP
 - Cloud App Push
 - 2X Integrations
 - BACnet
 - RTSP - Dashboard
 - Audio + Visual (Light Ring)
 - Input Relay & Output Relay

- Interface
 - Browser Interface
 - Halo Device Manager
 - HALO CLOUD
 - Advanced Integrations

- Additional Sensors
 - Internal
 - HALO 3C PC
 - Large Runs
 - External
 - RS-485
 - Bluetooth

- HALO CLOUD - Optional
 - Enterprise Management
 - 1Year Storage
 - Data Analytics & Reporting
 - Device – Device Communication





AURUM OPERATING SYSTEM

Advanced Data Management System Enhancing
Automation of Tasks and Processes
Reducing Human Performance Errors

Revolutionary New Technology First of its Kind

***Midas The Immediate Solution To Your Communication Challenges
because it knows where you are in the facility***

Stan Robinson





MIDAS

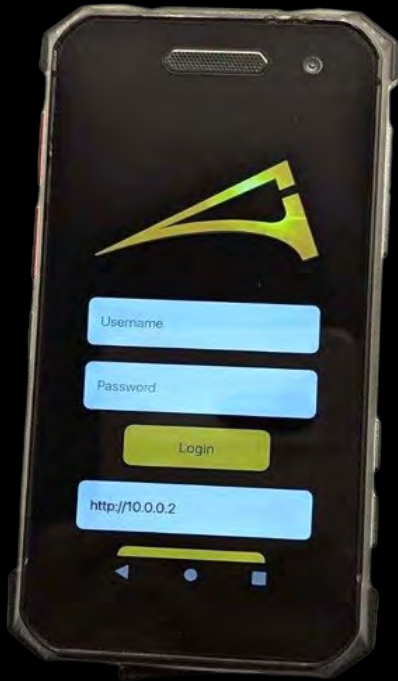
MULTIPLE DATA MANAGEMENT TOOL IN ONE DEVICE ANDROID 14 OS FOUR PILLARS

1. Personnel radiation monitoring device with WiFi telemetry for Dose and Dose rate.
2. Com device two-way audio WiFi calling with all com devices at your facility.
3. Wireless video streaming from the field to the desktop on your network.
4. RTLS technology 6" to 1 ft accuracy with electronic barriers providing pre-recorded. message. For example-Hardhats and safety glasses are required for this area.



The MIDAS Device

REVOLUTIONARY Multi-Functions-IN-ONE DEVICE ON ANDROID 14 OS



- Fully Integrated, 4 pi Silicone photodiode Electronic Dosimeter 7Ur to 10,000 R
- WiFi Enabled Telemetry System showing personnel and Area Rad monitor data
- RWP Access Control System connection through Midas touchscreen
- Stream the video to the desktop like a body cam for each user in the field
- Two-way Communication Device WiFi to network from Midas device BT headset capable.
- Real-Time Location System (VPS) AI allows electronic barriers to provide information quickly. Caution: You are not qualified for this task! RWP required for entry, etc.
- Optional Haptic Feedback heart rate, BP, body Temp etc., with the wrist watch



HELIOS “Remote Station”

- Helios
 - One-way video and two-way audio calling to a Desktop User using WiFi calling or 4G/900 Mhz also call desk phones and off site
- Using a Fully Integrated, 4 pi Silicone photodiode Electronic Dosimeter 7Ur to 10,000 R for hand held Radiation surveys and Area Radiation monitoring. As well as a Remote job coverage tool for multiple jobs, providing Audio, video, and dose rate and dose information.
 - Location provided for Helios Remote-Station to the desktop via RTLS
 - Stream 4 workstations into the Desktop for multiple job support
 - Deploy Helios as WiFi camera and Area Radiation monitor rapidly with mag mount or clamp mount

1” Thick

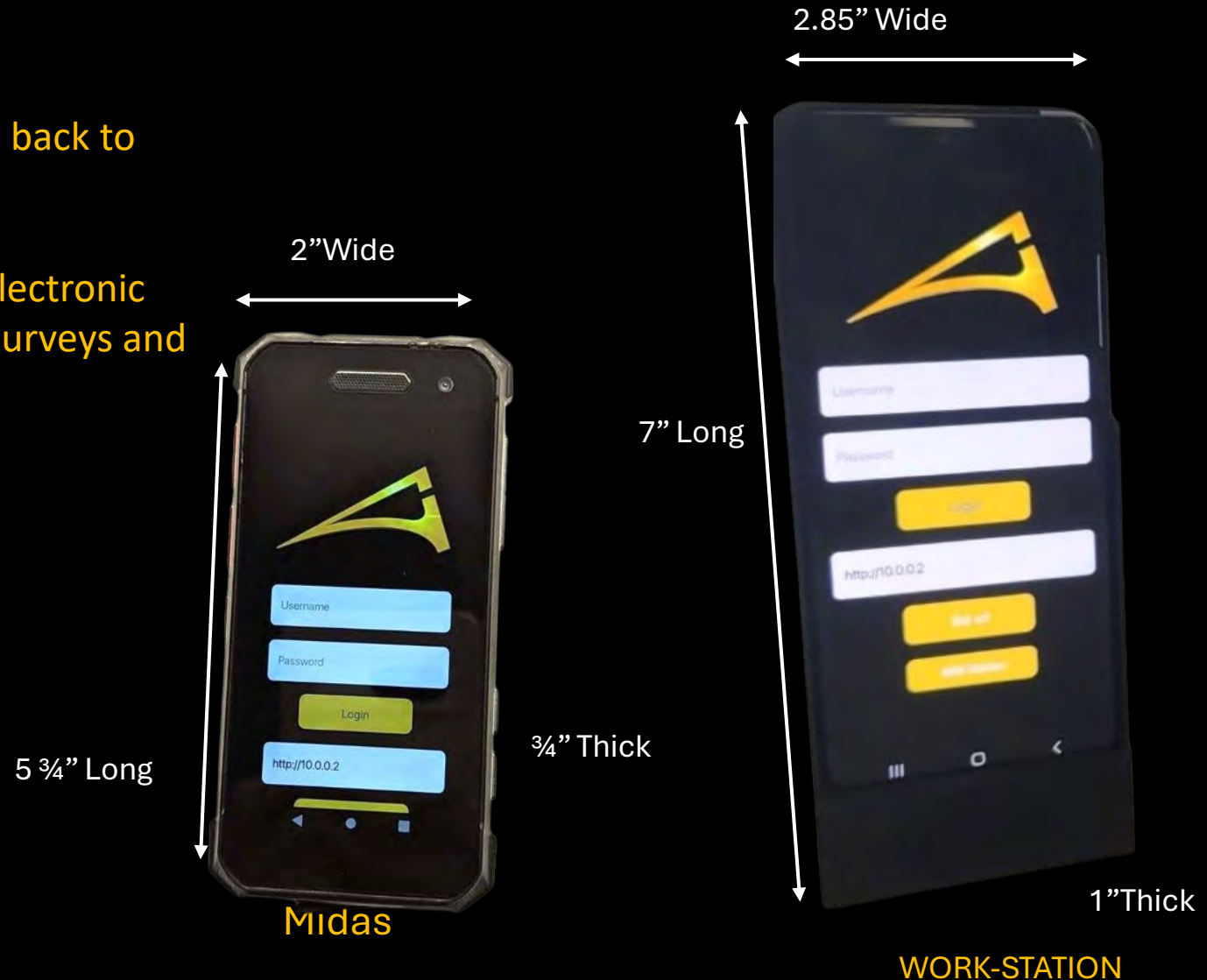


WORK-STATION



Helios And Midas New Aurum WIFI Devices

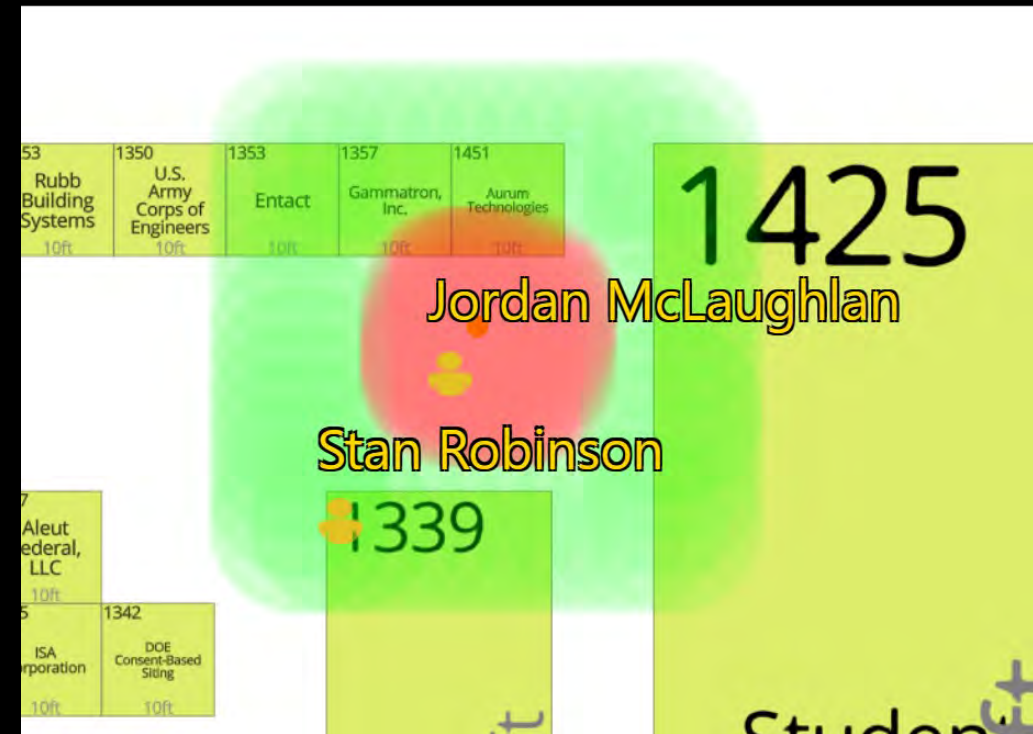
- Helios Remote-Station (RS) Using Aurum OS
 - Wireless fixed video camera WiFi & 4G/900 stream back to desktop.
 - Using a Fully Integrated, 4 pi Silicone photodiode Electronic Detector 7Ur to 10,000 R for hand-held Radiation surveys and Area Radiation monitoring.
 - 2-way audio communications, WiFi/4G/900 Mhz
 - RTLS technology 6" to 1 ft with Digital Assistant
 - RWP access control interface
 - One-way video stream to desktop





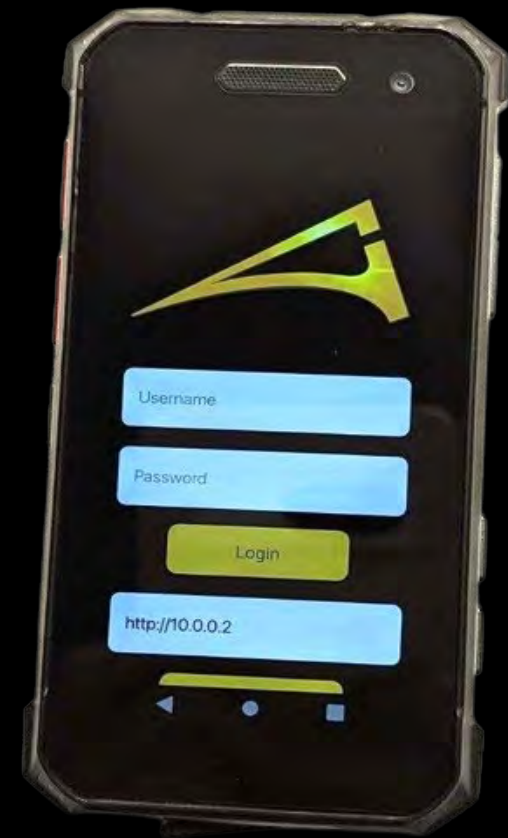
VPS Visual Positioning System With Heat Map Using Midas Radiation Readings With Location Info

Aurum utilizes the Midas device to provide RTLS technology and heat map dose rate. Aurum RTLS AI creates a digital twin of the area you are in, providing a 6" to 1-foot resolution. The personnel icon tracks your location on an elevation map at your facility. Mousing over the icon provides Dose and Dose Rate data for the individual. The system works on your facility's WiFi with 4G/900 Mhz backup for audio and RTLS, as well as telemetry data.





- Midas Production Device
- IP68 hardened device, allowing complete submersion in water up to 1 meter for 30 minutes.
- 2 Meter drop concrete
- Android 14 platform internet connection not required
- 12-hour battery life
- Device is available for use after the last user logs out and the green battery light is on. New user enters badge number and PIN for device activation; all data is stored in a database on the site's network. Internet connection only required for system updates.





ADDITIONAL FEATURES OF AURUM OS

- **Video management system for controlling and viewing cameras in the plant**
- **Chat rooms or Com channel for up to 50 personnel in the same talk group**
- **Ability to connect to other applications and integrate their data, like RP surveys, VMS, and Access control**
- **Rapid dose rate updates once every second**
- **Voice controls are available for the Midas device**
- **Augmented reality device like the Holo Lens planned for hands free document control**
- **Network Health Monitor" and it watches the network quality, upload, and download speeds, and dynamically adjusts the devices as necessary to ensure the call quality is perfect.**

We are looking forward to visiting your facility to provide a full system demonstration with all devices.

Please let us know when your schedule supports us coming to see you and your team

Questions?



Master Lee





Master-Lee
Energy Services Corporation



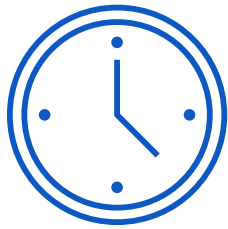
Decon Services



Quick Decon Solution (QDS)



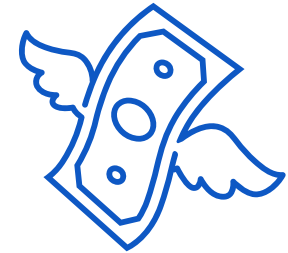
- Master-Lee Decon Services utilizes Quick Decon Solution (QDS) to significantly reduce both time and personal dose associated with all decontamination efforts and tasks.
- QDS is an ionic-focused solution designed to effectively remove contamination. When applied to a contaminated surface, the proprietary solution lifts radioactive material, suspending it within the solution, where it can be easily wiped or rinsed away as radioactive waste.
- Master-Lee is a preferred, exclusive partner of RT Technologies in the Nuclear Power Services market



Significant Reduction in Critical Path
Time & Dose



Non-Toxic, Environmentally Friendly,
& Safe on Skin



Simple & Cost Effective ALARA
Solution



Quick Decon Solution (QDS)

Product Description

- Available in “freeze dried” packages. Each package mixes with DI water to make one gallon of QDS solution.
- Each ion-specific formula targets a chemical group:
 - Transition Metals (TM)
 - Actinides (A)
 - Halogens (H)
- Free of soaps/surfactants – safe for wastewater resin systems.



Quick Decon Solution (QDS)

Quick Decon Solution – Key Features

- Safe & Quick ionic-infused solutions for removal of contamination
- Effective on 63 different elements
- ~80%-90% reduction on 1st pass*
- Non-Toxic & environmentally friendly
- Water-based and “Resin Bed Friendly”
- Cost Effective
- Available in Pre-moistened wipes for tool decon
- 10 year Shelf Life



Quick Decon Solution (QDS)

The Process

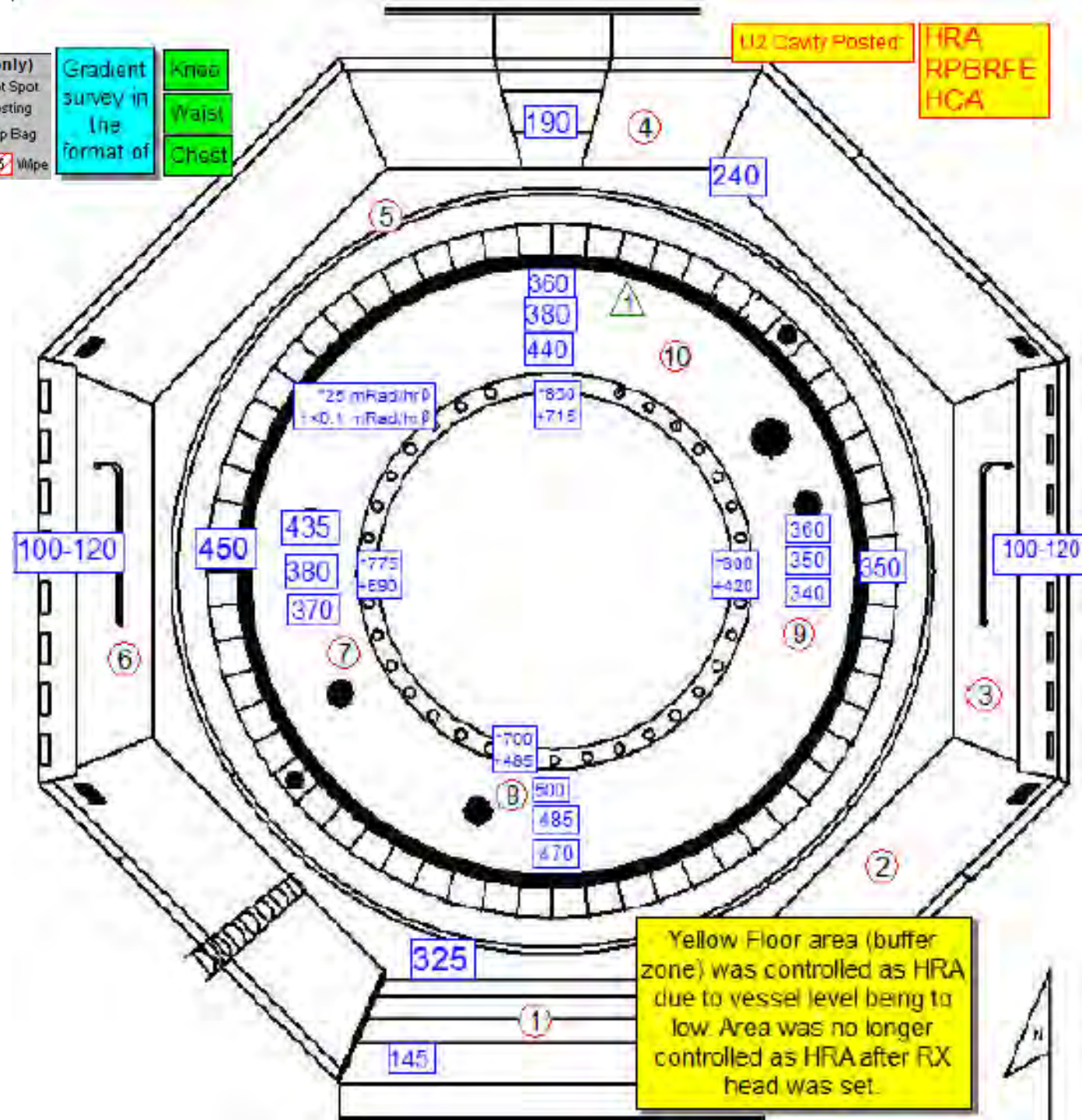
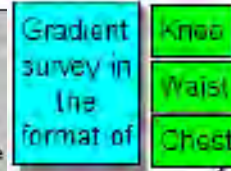
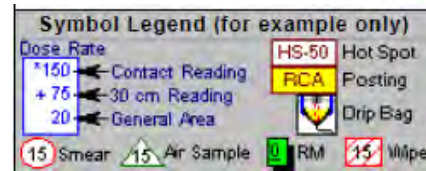
1. RP to perform radiological surveys (Pre-Decon).
2. Pre-stage QDS Solution in bug sprayer(s). Apply QDS Liquid Solution to exposed areas (“bathtub ring”) and scrub with Scotch-Brite, or pressure wash.
3. Begin decontamination as the cavity drains (keep walls wet).
4. Begin applying QDS using bugs sprayers starting at the 7’ mark of the walls and cavity floor. Wait ~5 minutes.
5. Begin pressure washing walls and floor, apply additional QDS Solution if needed; continue spraying walls and floor.
6. Final pressure wash rinse removes remaining QDS Solution.

QDS Project: Cavity Decon

Before First Pass with QDS

- Reactor Cavity Decon
- Master-Lee Decon Services (MLDS) recently deployed the Quick Decon Solution (QDS) on a customer's reactor cavity with impressive results.
- Initial radiological surveys revealed extremely high RAD smearable contamination levels—equated to millions of disintegrations per minute (DPMs).

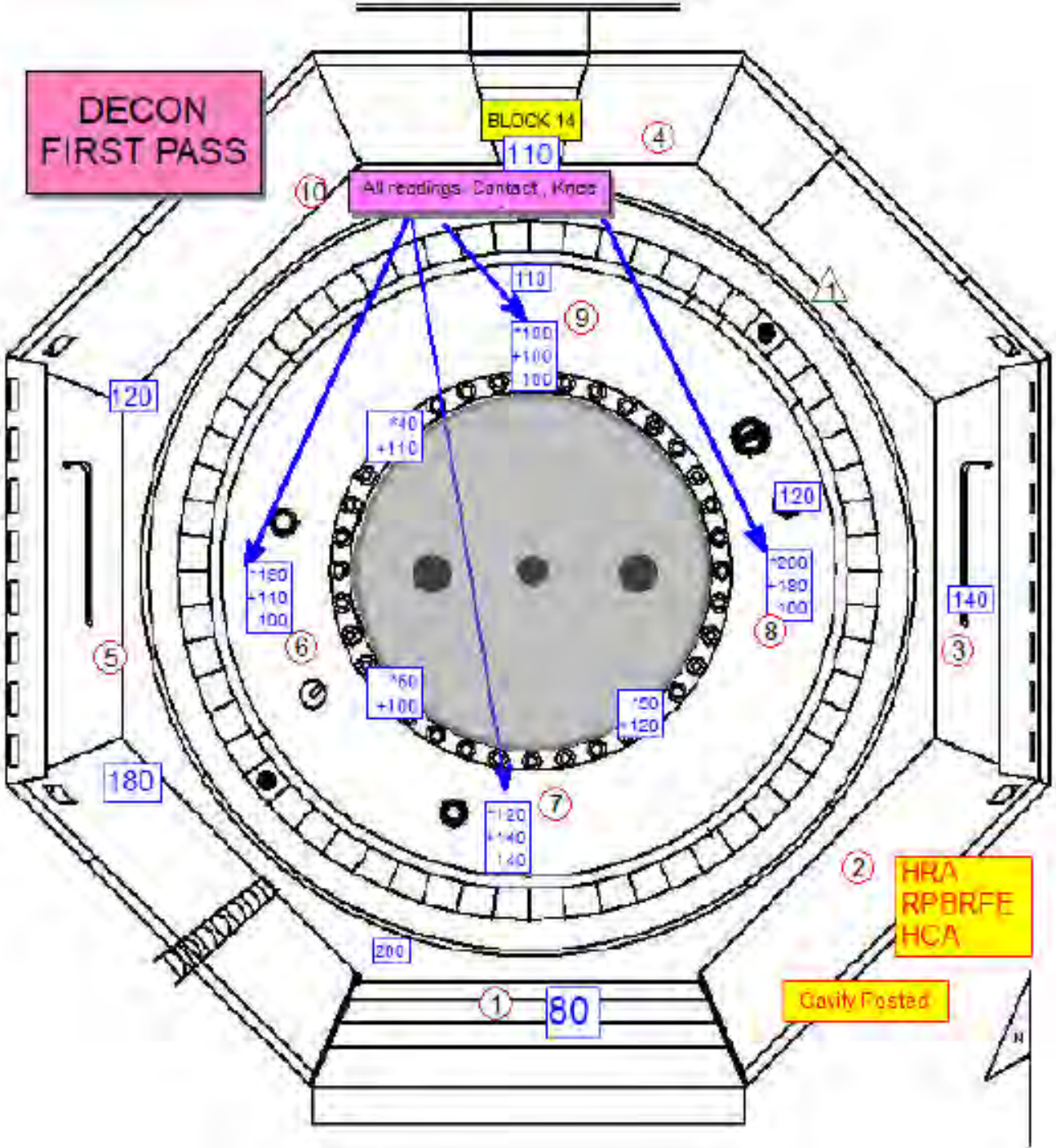
#	Type	Inst.	Value/mRad
1	Smear	N/A	β/γ 40
2	Smear	N/A	β/γ 8 $\alpha < 20$
3	Smear	N/A	β/γ 16 α 113
4	Smear	N/A	β/γ 10 $\alpha < 20$
5	Smear	N/A	β/γ 400
6	Smear	N/A	β/γ 30
7	Smear	N/A	β/γ 3000
8	Smear	N/A	β/γ 7000
9	Smear	N/A	β/γ 3000
10	Smear	N/A	β/γ 5000



Cavity Decon: First Pass with QDS

- Results after first pass:
- After just the first decon pass using QDS, levels on the cavity walls and a portion of the stainless-steel floor dropped to under 100,000 DPMs.

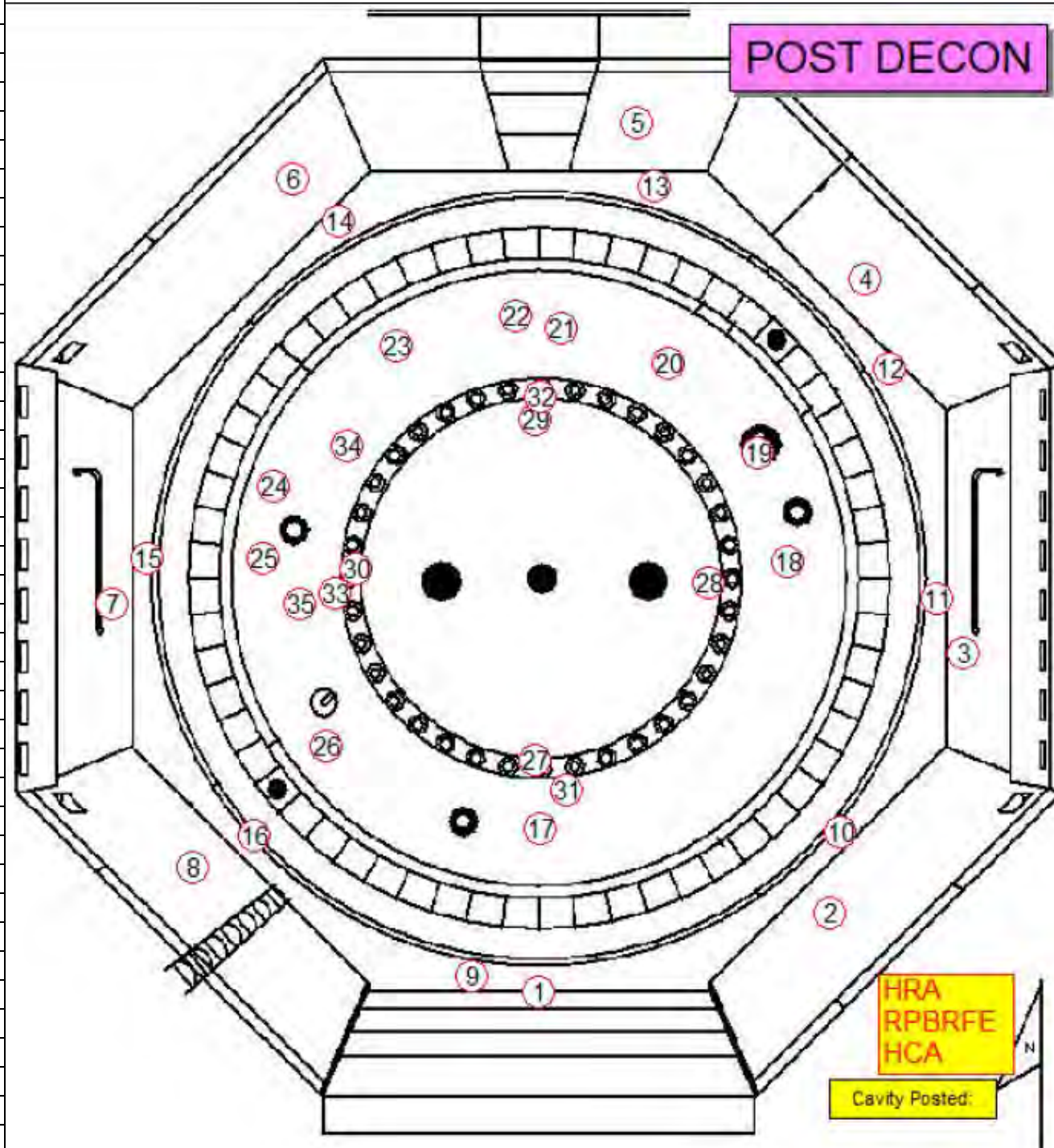
#	Type	Inst.	Value	Units	Position
1	Smear	N/A	β/γ 120K	DPM/100 cm2	Wall
2	Smear	N/A	β/γ 100K	DPM/100 cm2	Wall
3	Smear	N/A	β/γ 60K	DPM/100 cm2	Wall
4	Smear	N/A	β/γ 20	mRad/hr/smear	Wall
5	Smear	N/A	β/γ 40K	DPM/100 cm2	Wall
6	Smear	N/A	β/γ 90	mRad/hr/smear	Floor
			α 45	DPM/100 cm2	
7	Smear	N/A	β/γ 40	mRad/hr/smear	Floor
8	Smear	N/A	β/γ 450K	DPM/100 cm2	
9	Smear	N/A	β/γ 40	mRad/hr/smear	
			α 15	DPM/100 cm2	
10	Smear	N/A	β/γ 450K	mRad/hr/smear	Floor
			β/γ 450K	DPM/100 cm2	



Cavity Decon: Final Decon with QDS

➤ Results Post Decon:

#	Type	Inst.	Value	Units	Position
1	Smear	N/A	β/γ 100K	DPM/100 cm2	South Wall
2	Smear	N/A	β/γ 100K	DPM/100 cm2	Southeast Wall
3	Smear	N/A	β/γ 100K	DPM/100 cm2	East Wall
4	Smear	N/A	β/γ 100K	DPM/100 cm2	Northeast Wall
5	Smear	N/A	β/γ 100K	DPM/100 cm2	North Wall
6	Smear	N/A	β/γ 100K	DPM/100 cm2	Northwest Wall
7	Smear	N/A	β/γ 100K	DPM/100 cm2	West Wall
8	Smear	N/A	β/γ 75	mRad/hr/smear	Southwest Wall
9	Smear	N/A	β/γ 75	mRad/hr/smear	Outer Floor
10	Smear	N/A	β/γ 75	mRad/hr/smear	Outer Floor
11	Smear	N/A	β/γ 150	mRad/hr/smear	Outer Floor
			α 12	DPM/100 cm2	Outer Floor
12	Smear	N/A	β/γ 75	mRad/hr/smear	Outer Floor
			α 18	DPM/100 cm2	Outer Floor
13	Smear	N/A	β/γ 125	mRad/hr/smear	Outer Floor
			α 40	DPM/100 cm2	Outer Floor
14	Smear	N/A	β/γ 75	mRad/hr/smear	Outer Floor
			α 35 outer fl	DPM/100 cm2	Outer Floor
15	Smear	N/A	β/γ 75	mRad/hr/smear	Outer Floor
16	Smear	N/A	β/γ 125	mRad/hr/smear	Outer Floor
17	Smear	N/A	β/γ 200K	DPM/100 cm2	Seal Plate
18	Smear	N/A	β/γ 100K	DPM/100 cm2	Seal Plate
19	Smear	N/A	β/γ 15	mRad/hr/smear	Man Cover
20	Smear	N/A	β/γ 100K	DPM/100 cm2	Seal Plate
21	Smear	N/A	β/γ 100K	DPM/100 cm2	Flange Cover
22	Smear	N/A	β/γ 100K	DPM/100 cm2	Seal Plate
23	Smear	N/A	β/γ 100K	DPM/100 cm2	Flange Cover
24	Smear	N/A	β/γ 100K	DPM/100 cm2	Seal Plate
25	Smear	N/A	β/γ 100K	DPM/100 cm2	Flange Cover
26	Smear	N/A	β/γ 100K	DPM/100 cm2	Flange Cover
27	Smear	N/A	β/γ 100K	DPM/100 cm2	Studs
28	Smear	N/A	β/γ 100K	DPM/100 cm2	Studs
29	Smear	N/A	β/γ 100K	DPM/100 cm2	Studs
30	Smear	N/A	β/γ 100K	DPM/100 cm2	Studs
31	Smear	N/A	β/γ 120K	DPM/100 cm2	Insulation Flange
32	Smear	N/A	β/γ 100K	DPM/100 cm2	Insulation Flange
33	Smear	N/A	β/γ 100K	DPM/100 cm2	Insulation Flange
34	Smear	N/A	β/γ 100K	DPM/100 cm2	Orange Beam
35	Smear	N/A	β/γ 100K	DPM/100 cm2	With Beams



QDS Project

Without QDS, this cavity decon would have demanded significantly more critical path time, dose exposure, and physical strain due to high heat stress protective gear. The solution not only streamlined the process but also minimized exposure and reduced fatigue on the team—marking a clear win for both safety and efficiency.

The QDS product continues to prove itself as a game-changer in radiological decontamination.



Thank You!



Mirion



RP/ALARA Meeting



Jeff duPont

June 2025



MIRION
TECHNOLOGIES

Tx Module (WRM-9000) End of Life

The Tx module will be replaced by the Enhanced Telemetry Module (eTx/ITx), a next-generation product that builds upon and significantly enhances the capabilities of the Tx module. The eTx/ITx offers expanded telemetry capacity, upgraded features, and is specifically designed to meet evolving needs. It delivers advanced functionality to better support supervisory operations and reduce radiological exposure.



Tx Module



DMC 3000 Dosimeter
and Tx Module

Discontinued Product



eTx Module



DMC 3000 Dosimeter
and eTx Module

Replacement Product

- This will require the DMC3000 to be upgraded to G3
- The Tx will work with G2 or G3 dosimeters
- The eTx/ITx will only work with G3 dosimeters similar to the NTx.
- 2025 last buy
- Access Control (Sentinel/HIS20) is G3 compliant.



MIRION
TECHNOLOGIES

Protect What's Next™

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What's with RDS-32 Family



Next generation of RDS-32 and hand-helds.

- New Alpha/Beta Handheld that utilizes Light Link technology. Lighter and more dependable.
- Frisker option, removes cables and more of a compact design.
- New RDS-32 Extendable Pole option that utilizes the legacy GMP detector (low range GM/ high range SD).
- RDS an all in one hand held system.



MIRION
TECHNOLOGIES

Protect What's Next™

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Mirion Connect 2025

Save the Date

July 28 – August 1

Mirion Connect 2025 **CONRAD ORLANDO RESORT** **ORLANDO, FLORIDA**



MIRION
TECHNOLOGIES

Protect What's Next™

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NPO Shielding Solutions





*Radiation
Shielding*



NPO Shielding Applications

2025



NPO Shielding Options

Lead Blankets



T-Flex® Blankets



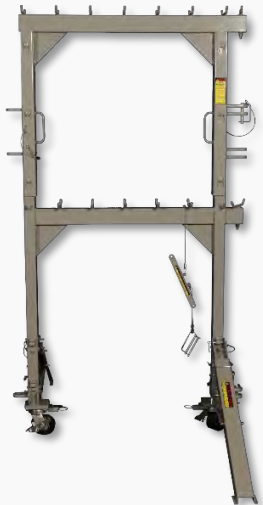
Molded Shielding



Dry Cask Shielding



Racks



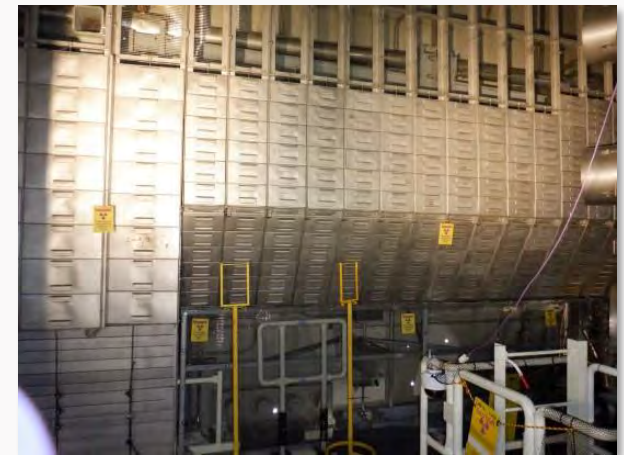
Shielded Containers



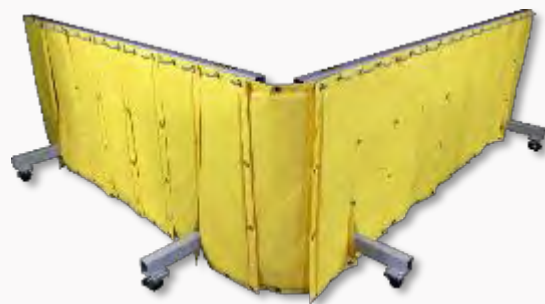
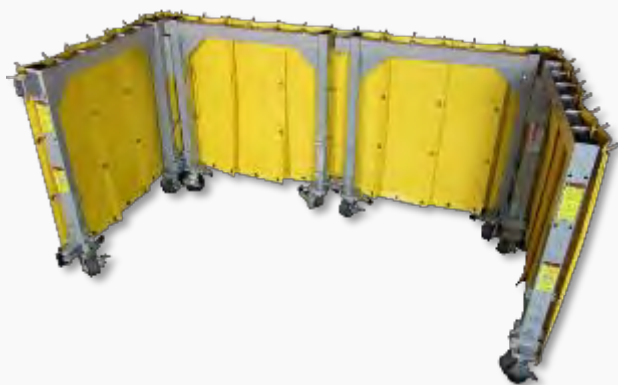
Shielded Casks



Permanent Shielding



Shielding Support Systems



Racks can be tailored to any height and width the application calls for

VersaClaw Shield Hanger

- > **High-Capacity Support:** Engineered to hold up to 270 lb per linear foot, ideal for heavy shielding blanket applications.
- > **Secure, Versatile Mounting** Installs quickly on scaffold poles, H-Rack systems, and handrails using integrated heavy-duty scaffold clamps.
- > **Consistent Hook Spacing:** Fixed 6-inch spacing ensures uniform load distribution and easy blanket hanging.
- > **Multiple Length Options:** Available in 2', 3', 4', 5', and 6' configurations to suit varying shielding needs.
- > **Lightweight & Easy to Handle:** Weighs less than 3.5 lb per foot, making transport and setup fast and efficient.



Scaffold Compatible Rack

- > **Heavy-Duty Steel Construction:** Built from robust carbon steel for long-term strength in demanding shielding environments.
- > **Scaffold-Compatible Design:** Horizontal rails match standard scaffold pole diameter, allowing integration with VersaClaw Hangers, S-Hooks, and common scaffold attachments.
- > **Stable, Mobile Platform:** Equipped with high-capacity casters and a 180 lb unloaded weight for easy positioning and dependable stability.
- > **Optimized Dimensions:** Measures approximately 3 ft wide x 6 ft tall, suitable for a range of shielding layouts.



55-Gallon Drum Container



1" thick solid lead on walls, floor, and door.

Fits (4) standard 55-gallon drums. Perfect solution for long term storage of items awaiting disposal or decay.

Shielded B25 Containers

- > 0.5" thick painted carbon steel walls, doors, and floor
- > Sliding top-side doors and cabinet-style front opening doors
- > All doors are lockable with a single haps
- > Can be easily moved by hand with lockable casters
- > Able to be rigged and lifted
- > Perfect solution for high dose outage trash from the reactor cavity or various areas



Hot Trash Transport

- > Bruce Power, 2025
- > 1" Solid Lead Encased in Coated Steel
- > 20" L x 20" W x 20" H
- > Tow Ring Feature
- > Gas Struts
- > 1,620 lb
- > 80% Attenuation (Co-60)



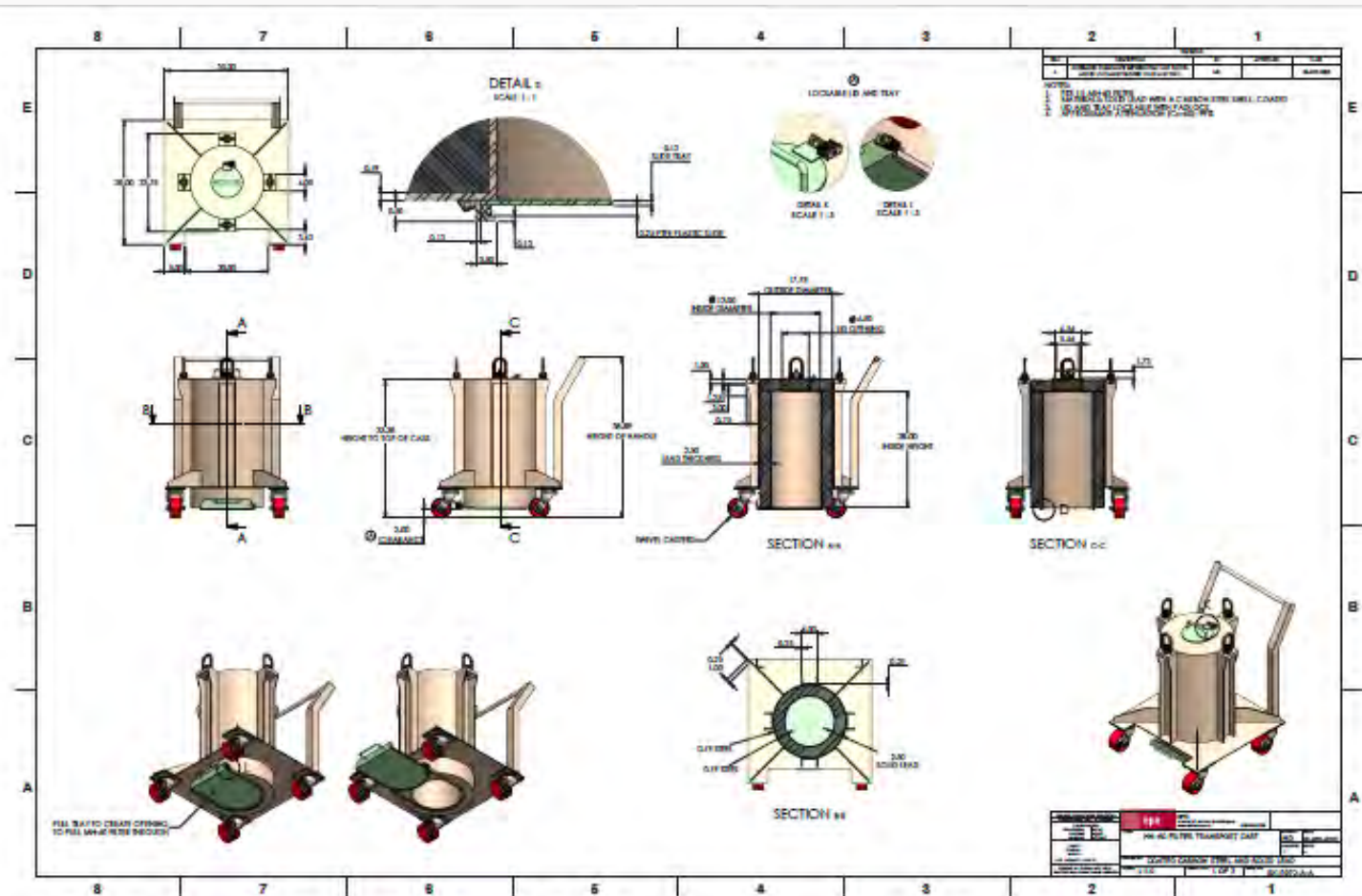
Tri-Nuc Filter Cask

- > Stainless Steel
- > Holds 12 Tri-Nuc Filters
- > 2" Solid Lead
- > Slanted Bottom for Proper Draining
- > Forklift and Crane Access
- > Lid Locks to Body – One Pick
- > 6500 lb (Unloaded)
- > **96% attenuation (Co-60)**



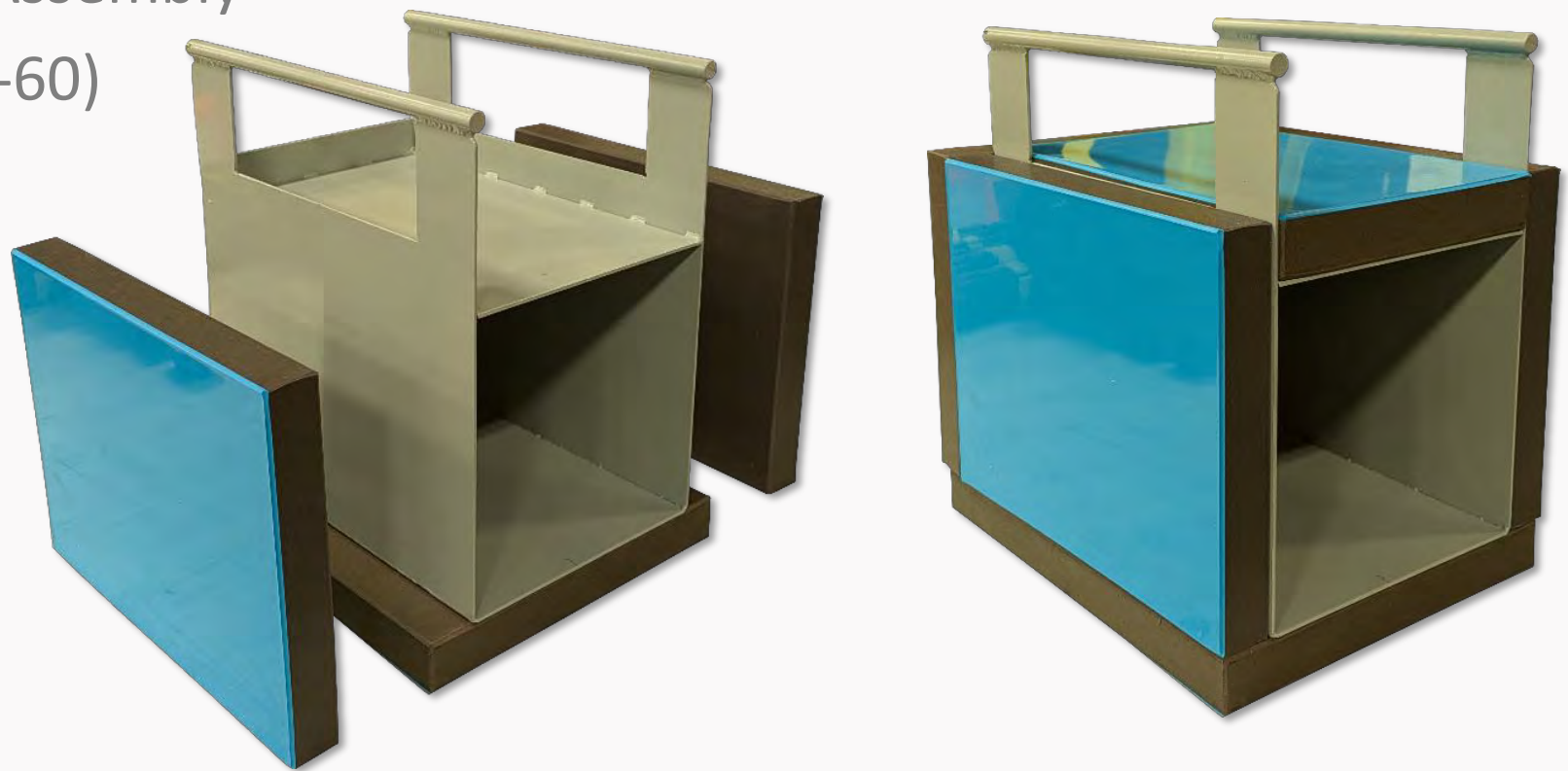
In Production!

- > Southern Company, Vogtle 3 / 4
- > CVS Filter Transport Cart
- > 12" ID x 28" Internal Height
- > 2.5" Thick Lead Encased in CS
- > Slide Out Tray at Bottom for Extracting MH-60 Filter from Beneath Ground Level and Pulling into Transport Cart
- > Approximate Weight: 1,970
- > Approximate Attenuation: 99% (Co-60)



T-Flex Mini Frisker Cave

- > Dominion, Millstone – 2025
- > Magnetic T-Flex Bismuth
- > Approximate Opening Size: 8" x 8" x 12"
- > Lightweight – Quick Assembly
- > 60% Attenuation (Co-60)
- > 136 lb Total Weight



Rad Shipping Containers

> 10-30 mL Lite Vial Type A Shipping System

- Polyethylene shell with polyethylene foam cushioning
- Heavy-duty zinc-plated steel hinge, handles, and latches
- Overall Size: 10" x 8.5" x 12.25" tall
- Case weight without vial – 14lb
- Shielded Vial Container – 21lb

REGULATIONS



Meets DOT Yellow II Type A packaging requirements



Meets IATA Dangerous Goods Regulations, 64th Edition Sections 5.0.4.3, 10.5, 10.6.0 and 10.6.1 thru 10.6.3.5



Sample Shields

For Carrying Part 61 Samples!



T-Flex can be shaped to hold any number or configuration of vials, bottles, and syringes.

Straps, magnets, and other hardware can be added to make the shields and samples easy to carry and transport.

Custom T-Flex



Shielded Pipe
Plug



Floor Supported



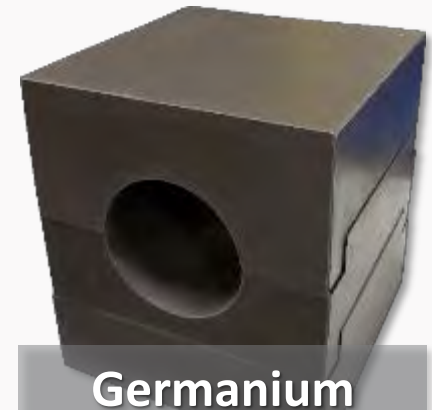
H3D M400
Detector Shield



Divider Plate



Floor Supported



Germanium
Detector Shield

Magnetic/Lockable Valve Shield Box

- > Duke –Brunswick, 2021
- > T-Flex Tungsten
- > 2" thick magnetic shield tiles for valve replacement
- > 640 lb total shielding package supported by steel frame and secured with cable ties
- > 80% dose reduction achieved, allowing area to be down posted from a Locked High Rad Area



Questions?



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RadSurv





Radiological Survey Software

Presentation for

RP-ALARA

June 18, 2025

About Maxeta Technologies

- Software Development Firm Founded in 2004
- Focused on Nuclear Power and Related Industries
- Custom Software Development
 - Extensive experience developing, implementing and integrating enterprise software
 - Disciplines: Radiation Protection, Maintenance, Metrology, Training
- Industry Products:    
- Representative Clients: Constellation, Los Alamos, Holtec, Westinghouse, GE Vernova

Software Features

- Web-Based Application
 - Access from any computer on your network – no installations
- Mobile App Available
 - Use Apple or Windows tablets both online and **offline** for flexibility
- Document Retention Integration
 - Submits approved survey PDFs to document retention automatically
- Device Integrations (ARMs, Equipment, Contamination)
 - Snapshot data from fixed area radiation monitors connected to Wi-Fi
 - Pull metadata for equipment used on a survey (Cal Due Date, Model, etc)
 - Retrieve contamination data from Apex-Alpha/Beta software on the network
 - Custom integrations for your use-case

Software Features

- Routine Survey Management
 - Next survey date calculated from routine days
 - Job specific surveys can be started from a routine template
- Trending Reports
 - Trend fixed reference points
 - Dose Data
 - Contamination Data
- Survey Search
 - Advanced Filters
 - Briefings

Software Features

- Survey Work Process Management
 - Approval/Rejection process
- Survey Templates
 - Maps associated to a template
 - Templates created with one or more maps
 - Start a survey from a template or previous survey
- User Admin
 - Site level security with multiple roles
- Response Check Validation
 - Validate response checks have been done within the specified time period prior to use



Westinghouse



Westinghouse Nuclear Field Services

Outage and Non-Outage Products & Services Line Card





Audio/Video Outage Support Services

Specialized service uses an audio network, general area and cavity submerged video cameras, remote robotic systems and recording systems to monitor reactor disassembly, refueling and reassembly reducing human performance errors, personnel radiation exposure and critical path schedule time.

Boiling Water Reactor Outages

- General area refuel floor monitoring
- Dry well insulation and head removal and installation
- Steam separator and dryer removal and installation
- Fuel shuffle
- Spent fuel pool monitoring

Pressurized Water Reactor Outages

- General area refuel floor monitoring
- Remote reactor head removal and installation
- Remote upper internals removal and installation
- Remote core barrel removal and installation
- Defueling and refueling
- Spent fuel pool monitoring



Foreign Objects Search and Retrieval Services (FOSAR)

Remote robotic search and retrieval of foreign objects from plant systems. Foreign objects are any object in an undesirable location.

Service Areas

- Boiling Water Reactor Cavity
 - Cavity
 - Equipment storage pool
 - Inner and outer bellows
- Boiling Water Reactor Torus/Suppression Pools
- Heat Exchangers
 - Steam Generators
 - Condensers and Hot Box
- Pressurized Water Reactor Cavity
 - Fuel Transfer Canal System
 - Lower and upper cavity
- Pressurizers
- Reactor Coolant Pumps
- Reactor Vessel
 - Annulus regions
 - Below Core Plate
 - Shrouds/Core Barrels
 - Upper Internals
- Spent Fuel Pool
 - In rack
 - Under rack area
- Tanks
 - Condensate Water Storage Tank
 - Recover Sample Tank Cleaning
 - Refuel Water Storage Tank
 - Surge Tank Cleaning



Remote Robotic Cleaning Service

Robotic cleaning focuses on reducing contamination and radioactive source term thereby reducing personnel radiation exposure and critical path schedule time.

Service Areas

- Boiling Water Reactor Cavity
 - Cavity floor and walls
 - "Cattle Chute" horizontal and vertical surfaces
 - Equipment Storage Pool floor and walls
 - Inner and outer bellows floors
 - Weir Wall
- Boiling Water Reactor Torus/Suppression Pools
- Pressurized Water Reactor Cavity
 - Fuel Transfer Canal floor and walls
 - Lower and upper cavity floor and walls
 - Reactor Flange
 - Reactor Flange O-Ring Groove Surface
- Reactor Vessel
 - Annulus region floors
 - Below Core Plate
- Spent Fuel Pool
 - Under rack area floors
- Tank Floor and Walls
 - Condensate Water Storage Tank
 - Recover Sample Tank Cleaning
 - Refuel Water Storage Tank
 - Surge Tank Cleaning
- Turbines
- Valve and Pipe Work Systems



Audio/Video Products and Services

Use of a network of audio equipment, video cameras and recording equipment to improve team communications which reduces human performance errors, personnel radiation exposure and critical path schedule time.

Products and Services

- Remote monitoring system integration
 - Network Video Management systems
 - Wireless audio
 - Rugged PoE cameras
 - Underwater cameras
 - Camera dome systems
 - Mounting solutions
 - Custom Crash Carts
 - Remote control stations
- Remote monitoring system installations
- Service Maintenance Agreements
- In house or on-site training
- Technical support

Applications

- Job coverage
- Personnel monitoring
- ALARA control and monitoring
- Incident investigation
- Controls, gauge, site glass monitoring
- Locked high rad control