INDIANA MICHIGAN POWER
An AEP Company
COOK PLANT

Be Risk Smart

Application in Commercial Nuclear Power Industry

Cook Nuclear Plant

Risk Smart is a way of life

- Applies to all levels of the organization
- Part of our daily cadence

There is a nexus between probabilistic and operational risk

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Applies to all levels of the organization

COOK PLANT CULTURE PLAYBOOK BELIEFS

COOK PLANT CULTURE PLAYBOOK

COOK PLANT CULTURE PLAYBOOK

Our Beliefs drive our Behaviors.
Our Behaviors drive our Results.
Our Results focus on Safety and Excellence.

BELIEF	BEHAVIORS	RESULTS
Zero Harm is Achievable	• Responsible leaders and accountable employees prevent injuries • Plan safety into your work • Look out for yourself and each other	ZERO HARM
Be a Nuclear Professional	• Take personal responsibility • Apply knowledge, skills and behaviors • Conduct work safely and reliably	EXCELLENT NUCLEAR SAFETY
Recognize and Mitigate Risks	• Use robust physical barriers • Ask the 7 Questions • Demonstrate a strong technical conscience	EVENT-FREE OPERATIONS
Support Your Peers	• Demand what's right • Have the courage to coach • Promote teamwork	INDIVIDUAL EXCELLENCE

4 COOK NUCLEAR PLANT

SEVEN QUESTION CHALLENGE

ASK THESE QUESTIONS TO HELP RECOGNIZE AND MITIGATE RISKS

1. Do we have the right focus/urgency on the issue?
2. Is there a clear management owner for the issue?
3. Are we overly optimistic on the outcome of the issue?
4. Have we applied the right formal process to the issue?
5. Are we quick to get outside help on the issue?
6. Have we appropriately applied all operating experience on the issue?
7. Is the issue acceptable because it has always been this way?

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Part of our daily cadence – PRA Risk

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Part of our daily cadence – Operational Risk

D.C. Cook Nuclear Power Plant				Thursday, February 11, 2021 0400
Prepared: Harris	**Reviewed:** Brady			**Approved**: Walter
UNIT 2 Status Report				
MODE	**Power**	**Gross Output**	**Net Output**	**Grid Condition**
1	100%	1238 MWe	1204 MWe	Stable
Days Trip Free: 122	**Unidentified RCS Leak Rate:** 0.000 gpm		**Condenser Vacuum:** 28.3 in Hg	**Main Gen H_2 Usage:** 556 scfd
Days on line: 120	**RCS Boron:** 351 ppm		**Condenser Air Flow:** 8.1 scfm	

Guarded Equipment:
- South SFP Cooling Train, 600V Bus 21C, East Diesel Fire Pump, 12-FHC-84 (high heat load in SFP)
- East Diesel Fire Pump and Electric Fire Pump & breaker (West Diesel Fire Pump Maintenance Window)
- AB1 EDG Fuel Oil Transfer Pump and breaker (AB2 EDG Fuel Oil Transfer Pump is Available following maintenance, waiting on PMTs for Operability)

Operations Report: (24 Hour Summary): Steady State Operations

Online Risk Status: GREEN	Train B Protected

Plant Concerns

Item	Condition	CR/WO	Issue Date	Closeout	Owner
None	•				

Action Register

Item	Condition	CR/WO	Issue Date	Closeout	Owner
2-ECR-17	**2-ECR-17 (PACHMS Tr 'B' Contmt Isolation Valve) Failed Stroke Time to Open Resulting in Both Trains of PACHMS being inoperable.** • Focus Meeting – WWM – 2/11	2021-1389	2-11-21	TBD	J. Anderson WWM

Open Operability Determination Evaluations (ODEs)

Item	Description	Due Date	Owner
None	•		

Open Operational Decision Making Issues (ODMIs)

Description	ODMI #	CR/WO	Issue Date	Closeout	Owner
Frequent low standpipe level alarms on #24 Rx Coolant Pump	2-2020-001	2020-0085	3-12-20	U2C26	Ramirez – OPS
2-HMO-302, Low Pressure Turbine 13th Stage Bleed Steam to Heater 3B, failed to close	2-2020-002	2020-3717	5-7-20	U2C26	Ramirez – OPS
2-SV-51 Normal Letdown Safety (lowered normal letdown operating band)	2-2020-003	2020-7341	9-24-20	U2C26	Ramirez – OPS
2-QT-414N/S, Generator Seal Oil North and South Hydrogen-Oil Coolers, leaking	2-2020-004	2020-9096	12-16-20	U2C26	Ramirez – OPS

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Part of our daily cadence – Operational Risk

Be Excellent Today

HUMAN PERFORMANCE

Thursday, February 11, 2021

Days Since Last At Risk Behavior Event: 3

2021 At Risk Behavior Resets: 6

Last At Risk Behavior Reset

02/07/21: Operator slipped on the snow covered curb when transitioning between walking surfaces. (OPS-B)

Dept Days of Excellence: 121

2021 Department Resets: 0

Last Department Reset:

10/12/20: Unit 2 auto trip due to incorrect placekeeping in a procedure while realigning SG blowdown. (OPS)

Site Days of Excellence: 121

2021 Site Resets: 0 (Goal = 0)
2021 Site Resets: 0

Last Site Reset:

10/12/20: Unit 2 auto trip due to incorrect placekeeping in a procedure while realigning SG blowdown. (OPS)

2020 SITE CLOCK RESETS: 1

Cook Human Performance Event Rate: 0.084
Top Quartile: 0.0 / Industry Median: 0.048

	Cook	Last
Safety Incident (OSHA Only) AEP Employees 10/22/18: Officer received head laceration after standing from seated position and striking a gun port in BRE. (SPS) *Top Quartile: 0.05 / Industry Median: 0.1*	0.00 YTD - 0	842
Safety Incident (OSHA Only) Contractors 10/14/19: Supplemental worker hand injury (line of fire) - lost time accident. (MTIS) *Top Quartile: 0.00 / Industry Median: 0.17*	0.17 YTD - 0	485
Status Control Event 10/06/20: Valve that maintains temperature for the Batch Tank was in OPEN instead of the normal position of AUTO (Lvl 3) (OPS) *Top Quartile: 0.00 / Industry Median: 1*	1.30 YTD - 0	127
Clearance Event 03/31/20: Independent verification did not catch an error when emergent work was assigned to the wrong clearance. (OPCL) *Top Quartile: 100 / Industry Median: 100*	100.00 YTD - 0	316
Procedure Use and Adherence 02/09/21: Prerequisite step for performance of job brief was signed off prior to completion while preparing to perform a reference use procedure. (Outage)	3	1
Foreign Material Exclusion 10/20/19: Trend in Foreign Material Intrusions in High Risk FME Zones (worker behaviors). *Goal: 0*	0	479
Reactivity Management Event 10/12/20: Unit 2 auto trip due to incorrect placekeeping in a procedure while realigning SG blowdown. (Lvl 3) (OPS) *Top Quartile: 98.4 / Industry Median: 97.2*	96.50 YTD - 0	121
Configuration Management Performance Deviation 11/30/20: Failure to recognize wires were mislabeled prior to changing plant wiring configuration caused the Unit 2 Control Air Dryer to not operate properly. (MTI) *Goal < 4*	0	72
Training Qualification Event 11/17/20: Qualification prerequisites were not validated resulting in work performed by unqualified workers.(PRJ) *Goal: 0*	0	85
Security Loggable Event 10/16/20: Individual observed without badge in the protected area. (Reg Affairs) *Goal < 11*	0	117
Radiological Safety Event 09/30/20: Workers entered HRA on wrong RWP task. (RP) *Goal < 6*	0	133

Significant Work

Activity Accelerators HIGH Risk

- Load New Fuel Into the Spent Fuel Pool (ORXS)
- Remove Stop Log from TWS 2-1 (MIS)

Vital Secondary Equipment/LCO Work

- U2 North CRAC Work Window (MTH)
- U2 Pressurizer Pressure Sets 1/2 COTs (MTI)
- West Disel Fire Pump Work Window (MTM)
- Stroke U2 Pressurizer PORV Block Valve 2-NMO-153 (OPS)
- U2 E Motor Driven Aux Feed System Test (OPS)
- 12-52-E Breaker Trip Check (MTSY)

Significant Emergent Work

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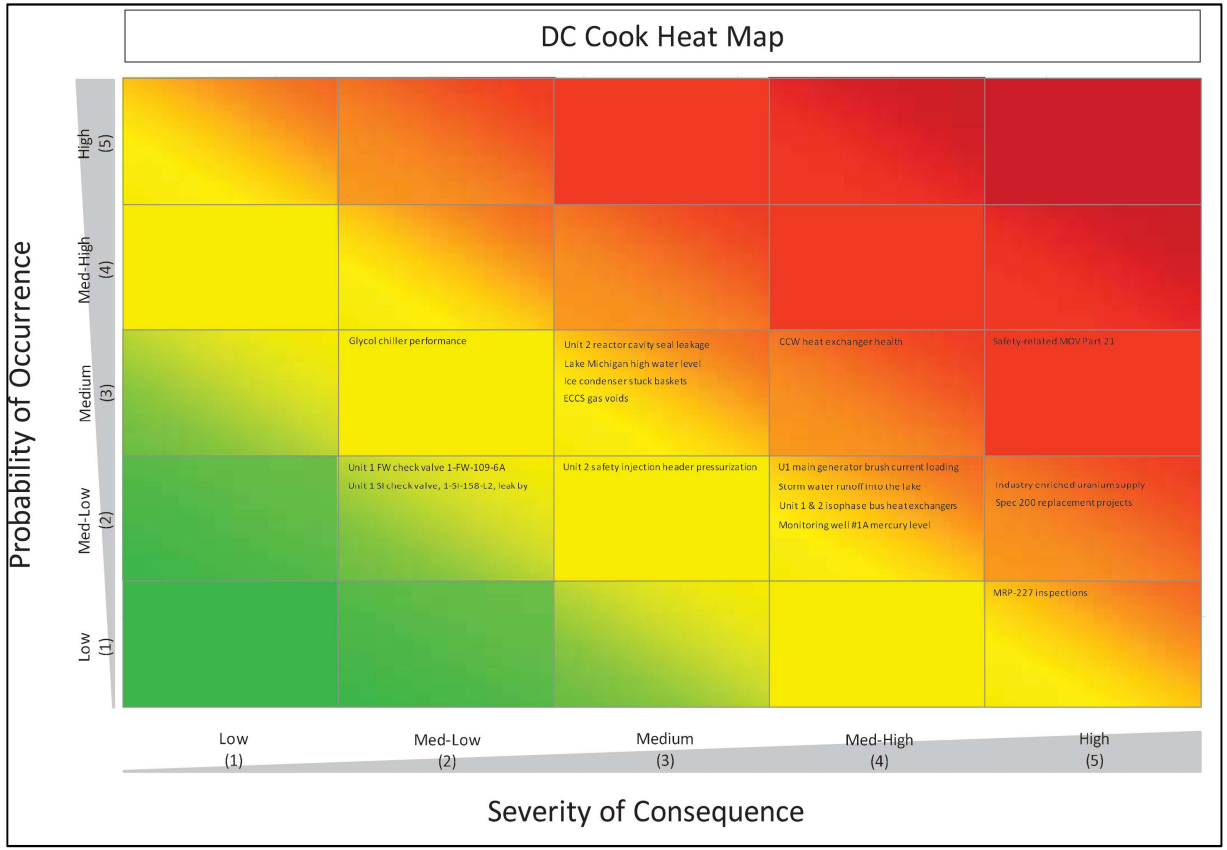
Part of our daily cadence – Enterprise Risk



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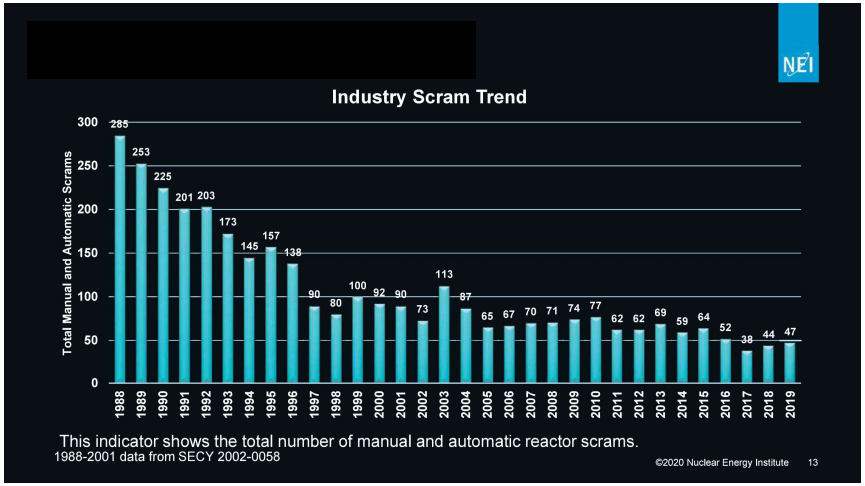
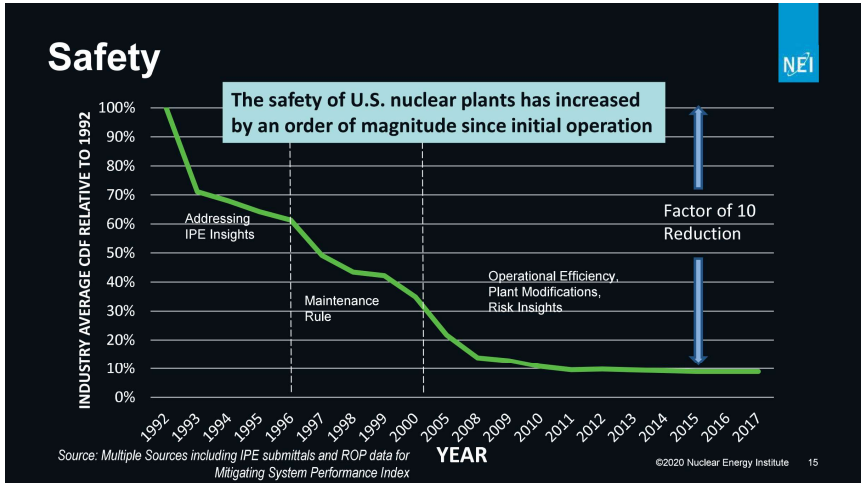
“Be Risk Smart” drives industry performance



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THANK YOU!