

PERFORMANCE ANALYSIS

PERFORMANCE ANALYSIS AND DASHBOARDS

Presented by
Steven Thomas



Goal

- The Performance Analysis (PA) Process is used to **monitor** project **performance**, with the goal of **identifying** potential **weaknesses** or **recurring issues** and **events** in order to **manage risk** and **prevent serious or significant occurrences**.

The objective for Performance Analysis:

- CAS mission to deliver the right information in the right way to support decision makers.
- Interactive dashboards and metrics designed fit for purpose.
- Proper flow of useful and understandable information

Goldilocks Problem and Performance Analysis

■ Too Much

- Long complex reports difficult to digest
- Fail to focus on the key risks
- Excessive detail bogs down the Sr. Management
- Ineffective use of metrics
- Difficult to make informed and timely decisions

■ Too Little

- Reports are superficial or incomplete
- Fail to inform of current risk or significant trends
- Unable to make informed decisions based on current health of the program

Just Right (identifying the correct balance)

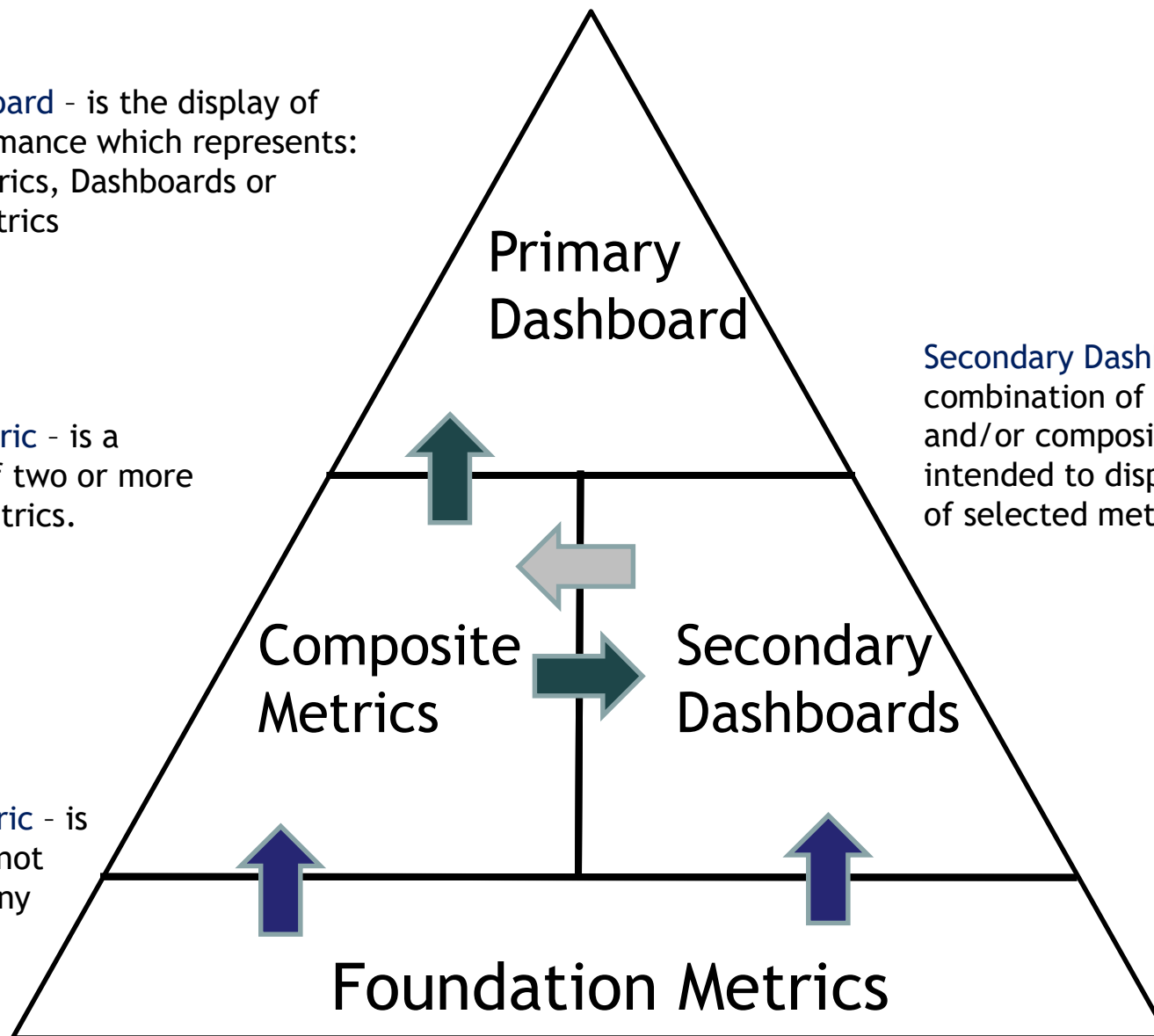
- Capture **relevant** information and data that executives and directors can use to make decisions.
- Effective reporting should foster insight
- Dashboards and metrics make data visual
- Data visualization, decision-makers grasp difficult concepts, observe patterns, and make informed choices.

Primary Dashboard - is the display of overall Performance which represents: Composite Metrics, Dashboards or Foundation Metrics

Composite Metric - is a combination of two or more Foundation metrics.

Foundation Metric - is a single metric not dependent on any other metric

Secondary Dashboard - is a combination of foundation and/or composite metrics and intended to display performance of selected metrics.



Dashboard and Metric Interaction

Dashboards

CAS CAS Effectiveness

POMC ISMS POMC

NSC Nuclear Safety Culture

TPM2 FA Program Health

Composite Metrics

NSC-M NSC Management Leadership

NSC-E NSC Employee Engagement

NSC-O NSC Organizational Learning

RF Requirement Flow Down & Compliance Documentation

AA Assessment Activities

LL Lessons Learned Performance

CC Cause Analysis & Corrective Action

EE Employee Engagement

TPM Trending and Performance Measures

wf is a weighting (risk) factor currently all metrics are weighted at 1

Foundation Metrics

NSC-M1 Nuclear Safety Training Hours

NSC-M2 Employees Concerns Closure

NSC-M3 ORPS Characterization

NSC-M4 Kiosk Feedback Closure

NSC-E1 Self-Assessment Simple ROI

NSC-E2 MFO Simple ROI

NSC-O1 Disciplined OPS Performance

RF1 CAN Response

RF2 S/RID Package Response

RF3 ESH CAIR Timeliness

RF4 Non-ESH CAIR Timeliness

RF5 Issue Resolution

RF6 Periodic Review/Updates

AA1 IAP Scheduled vs. Completed

AA2 Assessment Grades

AA3 Percent SAs Graded

AA4 SA Submitted vs. Closed

AA5 Self Identified vs. Event/External

Foundation Metrics

LL1 Lessons Learned Submittals

LL2 Lessons Learned On-Time Processing

LL3 OEC Reviews

CC1 On-Time Closure SC 1&2 Issues

CC2 SC 1&2 Issues Open > 1 Year

CC3 SC 1&2 Closure ≤ 1 Extension

CC4 On-Time Closure SC 3 Issues

CC5 SC 3 Issues Open > 1 Year

CC6 CA Grading Closure

CC7 Issues Open All Actions Closed

CC8 ACA Results

CC9 ACA Timeliness

EE1 SRR MFOs Performed

EE2 Senior Mgr. MFO Performed

EE3 MFO Quality

EE4 Safety Meeting Attendance

EE5 BBS Observations Completed

EE6 New CTS Issues

EE7 New Issues Action Items

EE8 Kiosk Feedback Adopted

EE9 Employee Concerns Per 100 Employees

Foundation Metrics

TPM1 ORPS Normalized Score

TPM2 FAPM Program Health

TPM3 System Health Reports

TPM4 Accounting/IT

TPM5 Contracts

TPM6 Performance & Risk

TPM7 Supply Chain

P1 SRR Safety Index

P2 TRC

P3 DART

P4 Cumulative Dose vs ALARA

P5 Rad. Severity Index

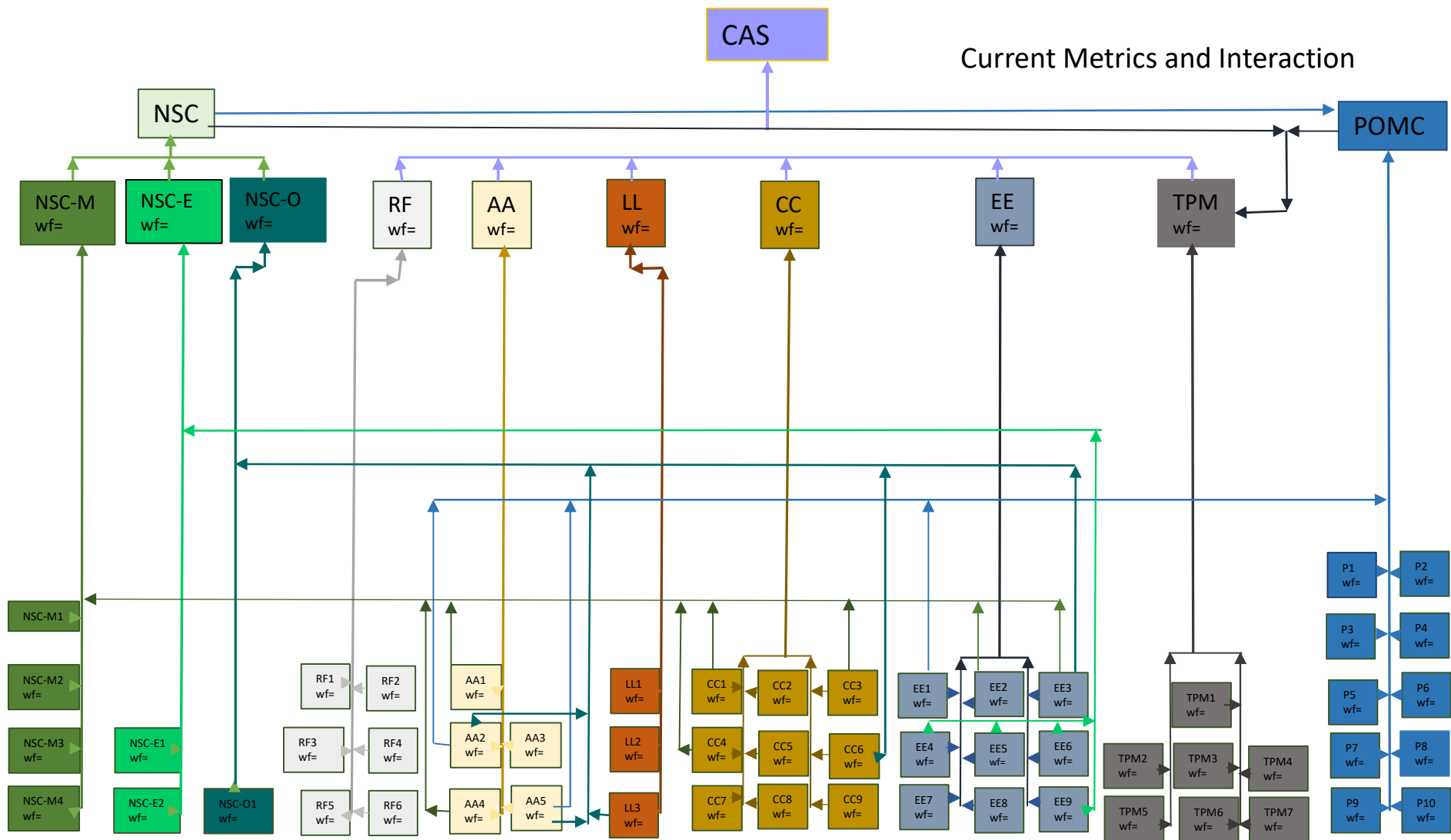
P6 Environmental compliance MFO

P7 Scheduled Task Completion

P8 Add-On Work

P9 Non-Outage PM Deferrals

P10 PMs Lat/Extended



- The Dashboard and Metric scores and color codes are presented to demonstrate functionality.
- The presented scores and colors are **NOT** actual data or scores and do not reflect SRR Performance

CAS Effectiveness Dashboard

Frequency of update: monthly
Display is 12 Month Moving Average

CAS Effectiveness

Goal $\geq 85\%$

Primary Dashboard

**Rolling
93 %**

Requirements Flowdown

Goal $\geq 85\%$
per Month

**Rolling
100%**

Composite
Metric

Assessment Activities

Goal $\geq 85\%$
per Month

**Rolling
96.7%**

Composite
Metric

Cause Analysis & Corrective Actions

Goal $\geq 85\%$
per Month

**Rolling
86%**

Composite
Metric

Lessons Learned

Goal $\geq 80\%$
Average per Month

**Rolling
100%**

Composite
Metric

Employee Engagement

Goal $\geq 85\%$
per Month

**Rolling
86%**

Composite
Metric

Trending & Performance Measures

Goal $\geq 85\%$

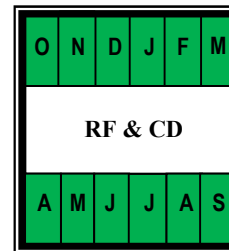
**Rolling
90%**

Composite
Metric

Requirements Flowdown (RF) & Compliance Documentation (CD)

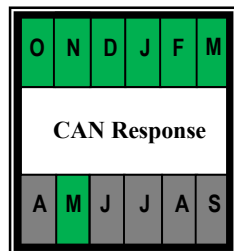
Frequency of update: Monthly
Composite metric and foundation metrics display monthly performance

Composite Metric



Target
Goal
≥ 85%

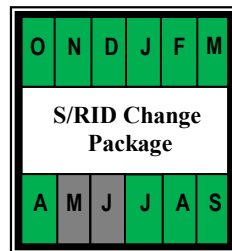
■ ≥ 90%
■ 80 – 90%
■ < 80%



Target
Goal
≤ 25 Days

■ 1-33 Days
■ 34-40 Days
■ > 41 Days

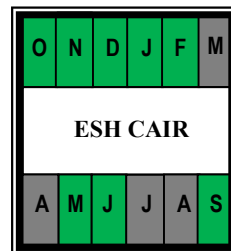
Foundation
Metric



Target
Goal
≤ 50 Days

■ 1-63 Days
■ 64-70 Days
■ > 71 Days

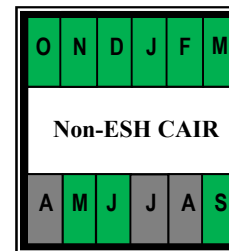
Foundation
Metric



Target
Goal
≤ 50 Days

■ 1-63 Days
■ 64-70 Days
■ > 71 Days

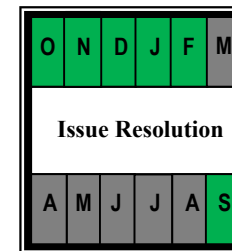
Foundation
Metric



Target
Goal
≤ 80 Days

■ 1-123 Days
■ 124-140 Days
■ > 141 Days

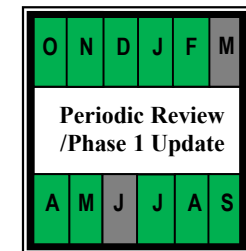
Foundation
Metric



Target
Goal
100%

■ Resolved
■ Unresolved
■ No Issue

Foundation
Metric



Target
Goal
≤ 10 Days of Due Date

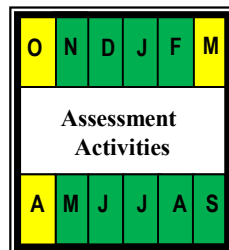
■ 1-10 Days
■ 11-30 Days
■ > 30 Days

Foundation
Metric

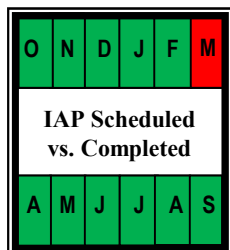
Assessment Activities

Note: not actual performance data for demonstration only.

Composite Metric

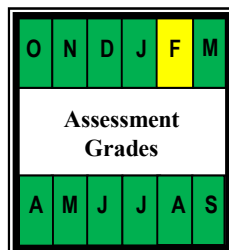


Target ■ $\geq 85\%$
Goal ■ $75 - 85\%$
 $\geq 85\%$ ■ $< 75\%$



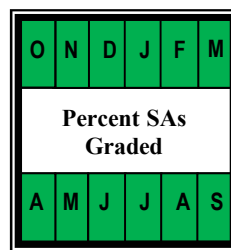
Target ■ $\geq 85\%$
Goal ■ $75 - 85\%$
 $\geq 85\%$ ■ $\leq 75\%$

Foundation Metric



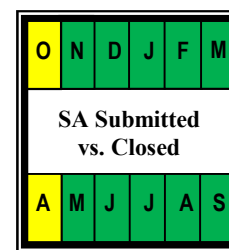
Target ■ $\geq 90\%$
Goal ■ $80 - 89\%$
 $\geq 90\%$ ■ $< 80\%$

Foundation Metric



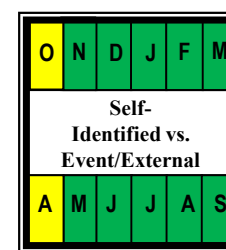
Target ■ $\geq 25\%$
Goal ■ $20 - 25\%$
 $\geq 25\%$ ■ $\leq 20\%$

Foundation Metric



Target ■ $> 85\%$
Goal ■ $75 - 85\%$
 $> 85\%$ ■ $< 75\%$

Foundation Metric



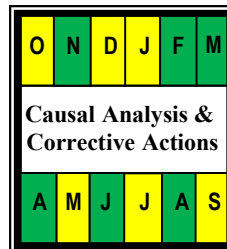
Target ■ $\geq 85\%$
Goal ■ $75 - 85\%$
 $\geq 85\%$ ■ $\leq 75\%$

Foundation Metric

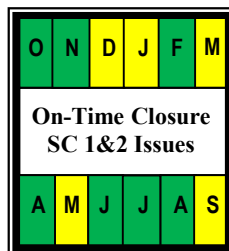
Cause Analysis & Corrective Action

Note: not actual performance data for demonstration only.

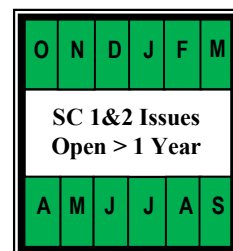
Composite Metric



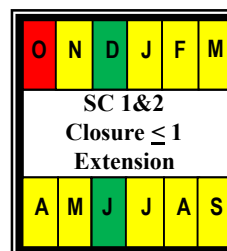
Target $\geq 85\%$
Goal $75 - 85\%$
 $< 75\%$



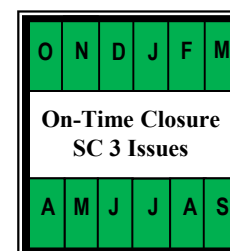
Target $> 94\%$
Goal $90 - 94\%$
 $< 90\%$



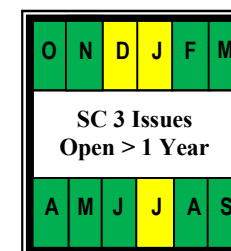
Target ≤ 40
Goal $41 - 49$
 ≥ 50



Target $> 75\%$
Goal $65 - 75\%$
 $< 65\%$

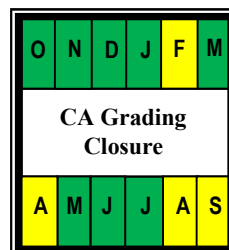


Target $\geq 85\%$
Goal $75 - 85\%$
 $< 75\%$

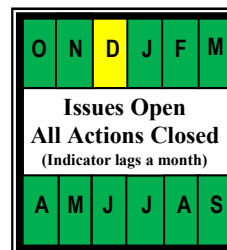


Target ≤ 70
Goal $71 - 84$
 ≥ 85

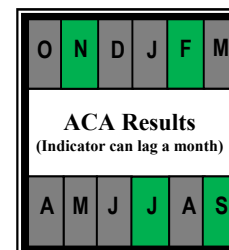
Foundation Metrics



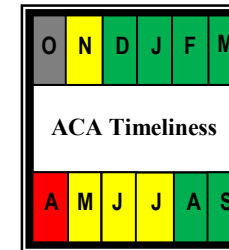
Target $\geq 90\%$
Goal $80 - 90\%$
 $< 80\%$



Target $\geq 80\%$
Goal $70 - 80\%$
 $< 70\%$



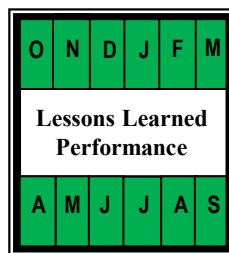
Target $\geq 80\%$
Goal $70 - 80\%$
 $< 70\%$



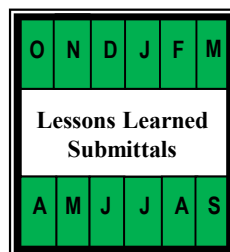
Target < 60
Goal $60 - 90$
 > 90

Note: not actual performance data for demonstration only.

Composite Metric

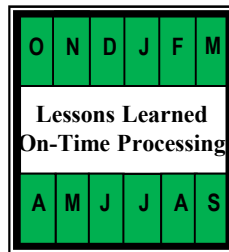


Target ■ $\geq 80\%$
Goal ■ 60 – 80%
 $\geq 80\%$ ■ < 60%



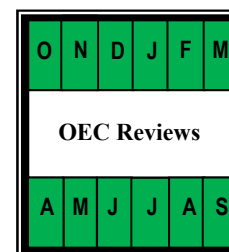
Target ■ ≥ 2
Goal ■ 1
 ≥ 2 ■ 0

Foundation Metric



Target ■ $\geq 90\%$
Goal ■ 75 – 90%
 $\geq 90\%$ ■ < 75%

Foundation Metric



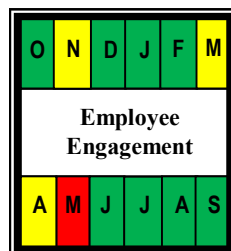
Target ■ ≥ 3
Goal ■ 1-2
 ≥ 3 ■ 0

Foundation Metric

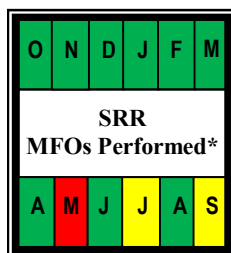
Employee Engagement

Note: not actual performance data for demonstration only.

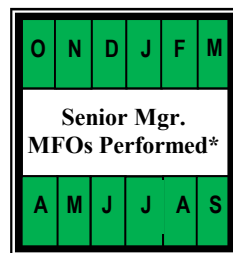
Composite Metric



Target Goal
 ≥ 85% ≥ 85%
 < 75% < 75%



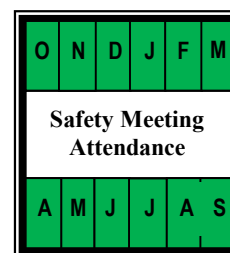
Target Goal
 > 330 > 330
 < 254 < 254



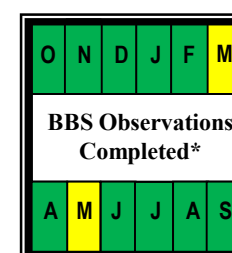
Target Goal
 ≥ 85% ≥ 85%
 < 75% < 75%



Target Goal
 > 90% > 90%
 < 80% < 80%

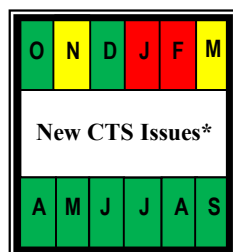


Target Goal
 ≥ 90% ≥ 90%
 < 80% < 80%

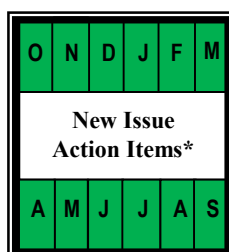


Target Goal
 ≥ 320 ≥ 320
 < 260 < 260

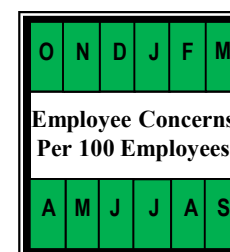
Foundation Metrics



Target Goal
 ≥ 105 ≥ 105
 < 89 < 89



Target Goal
 ≥ 140 ≥ 140
 < 120 < 120

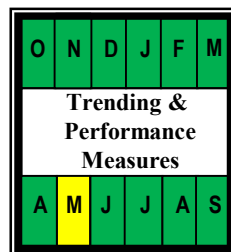


Target Goal
 ≤ 5 ≤ 5
 > 10 > 10

Trending and Performance Measures

Note: not actual performance data for demonstration only.

Composite Metric

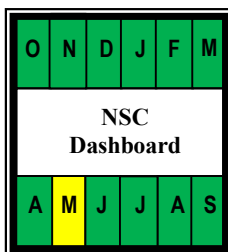
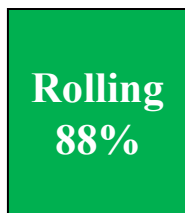


Target Goal
 ≥ 85% ≥ 85%
 75 – 85%
 < 75%

Secondary Dashboard

Nuclear Safety Culture Dashboard

Goal ≥ 85%

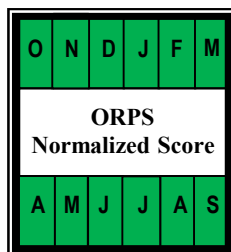


Target Goal
 ≥ 85% ≥ 85%
 75 – 84%
 < 75%

Foundation Metric

ORPS Normalized Score

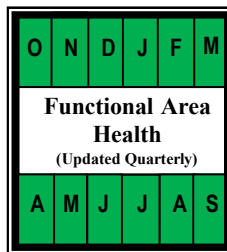
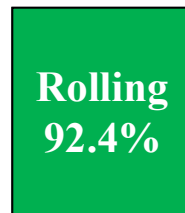
Goal ≤ 6.5



Target Goal
 < 4.08
 4.08 – 9.54
 9.54 – 12.26
 > 12.26

FAPM Program Health

Goal ≥ 90%

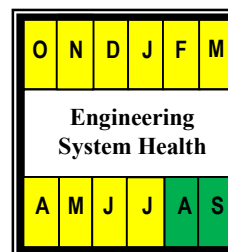
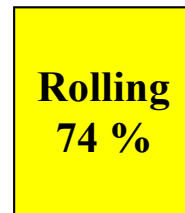


Target Goal
 > 90% > 90%
 80 – 89%
 < 80%

Composite Metric

System Health Reports

Goal ≥ 76%

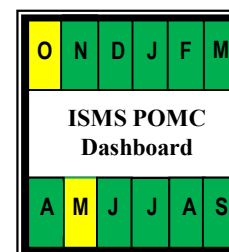
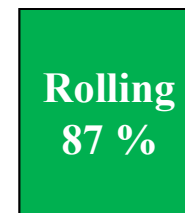


Target Goal
 ≥ 76% ≥ 76%
 51 – 75%
 ≤ 50%

Secondary Dashboard

ISMS POMC Dashboard

Goal ≥ 85%

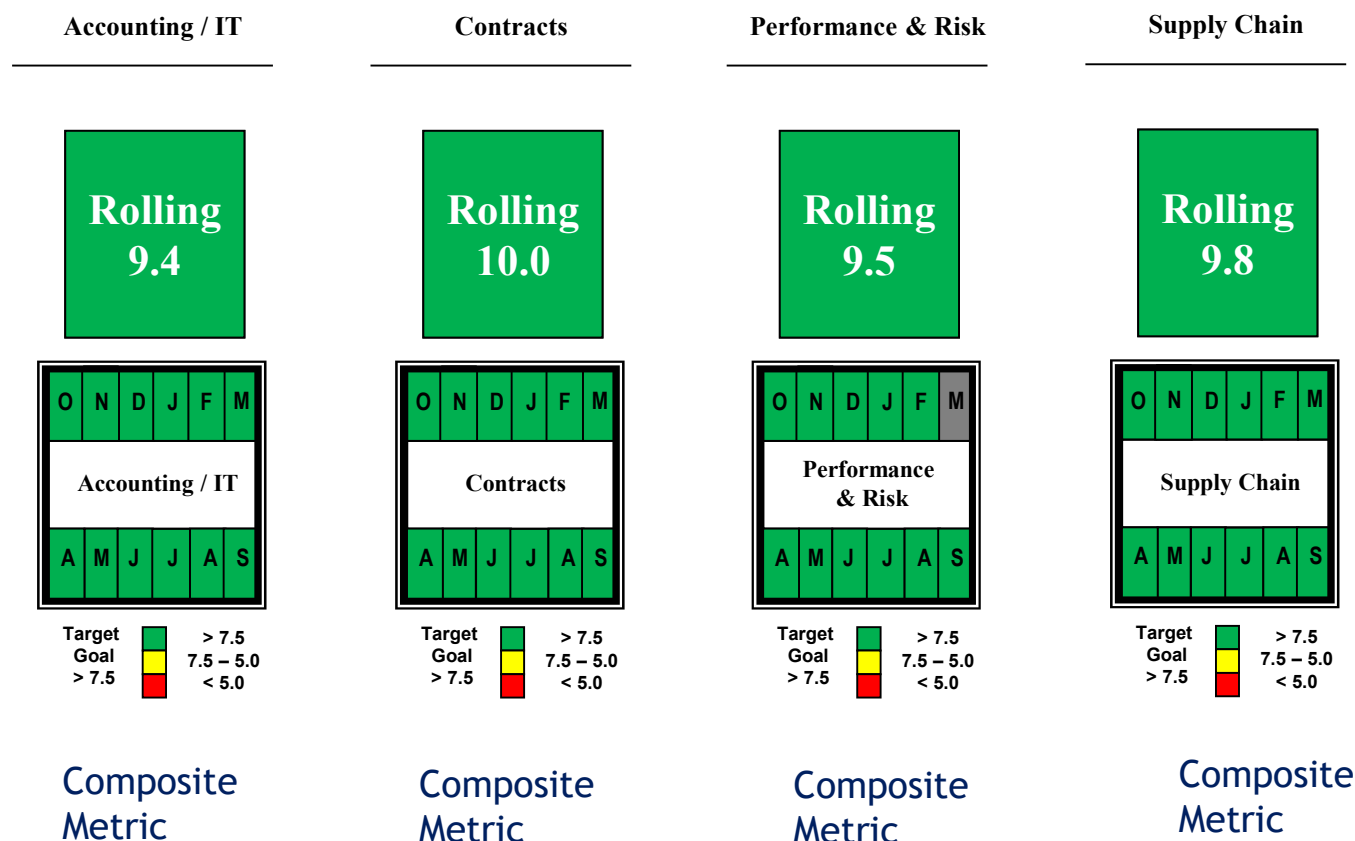


Target Goal
 ≥ 85% ≥ 85%
 75 – 84%
 < 75%

Secondary Dashboard

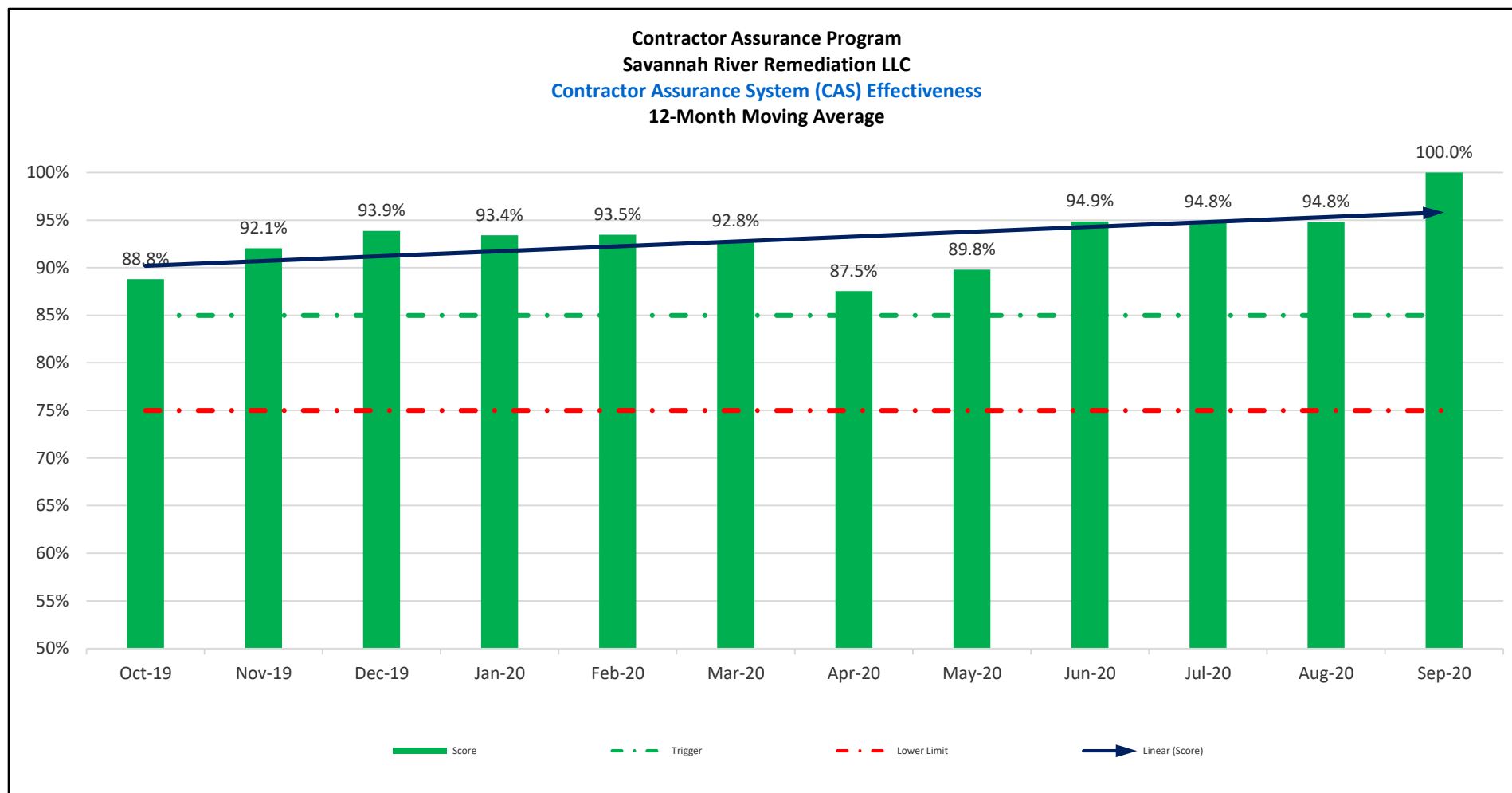
Trending and Performance Measures - Balanced Scorecard

Note: not actual performance data for demonstration only.



Performance Analysis Effectiveness

- Displays the Performance Analysis both monthly and 12-month trend.
- Results and complied from foundation metrics; composite metrics and secondary dashboards



Functional Areas (FA): 23 Functional Areas across SRR Operations

- Functional Area Program Managers and Subject Matter Experts determine the FA Health and reported quarterly.
- Functional Area Health components include:
 - **Performance** -
 - Assessed on Watch List or Recurring Issues, or significant systemic weaknesses related to the FA
 - Majority of issues self-identified with no significant external/event driven issues identified
 - Risk based and timely assessments of FA are conducted
 - Corrective actions are implemented timely to address FA related issues
 - Performance metric trends for the FA
 - Continuous improvement is pursued via Lessons Learned and Benchmarking efforts
 - **Reliability** - A self-critical Program Reliability Evaluation (PRE) involving program Functional Area Program Managers, appropriate subject matter experts and responsible managers using the Program Reliability tool will reveal vulnerabilities related to program elements that may bring into question the true health of a program that appears, based on traditional metrics, to be performing well.
 - **Verified by and Independent Review**

Functional Area Health Evaluation

Note: not actual performance data for demonstration only.

Functional Area	2QFY20	3QFY20	4QFY20	Independent Review	Functional Area	2QFY20	3QFY20	4QFY20	Independent Review	Functional Area	2QFY20	3QFY20	4QFY20	Independent Review
Design FA 1	HLT	HLT	HLT	2Q19	Env. Prot. FA 7	HLT	HLT	HLT	4Q18	Chem. Safety FA 25	HLT	HLT	HLT	1Q18
	REL	REL	REL			REL	REL	REL			REL	REL	REL	
Safety Doc. FA 6	HLT	HLT	HLT	2Q19	QA FA 8	HLT	HLT	HLT	1Q18	Maintenance FA 10	HLT	HLT	HLT	2Q19
	REL	REL	REL			REL	REL	REL			REL	REL	REL	
Conf. Mgmt. FA 9	HLT	HLT	HLT	4Q18	RCO FA 11	HLT	HLT	HLT	2Q19	WP & C FA 27	HLT	HLT	HLT	2Q19
	REL	REL	REL			REL	REL	REL			REL	REL	REL	
Fire Prot. FA 12	HLT	HLT	HLT	2Q19	Emer. Prep. FA 13	HLT	HLT	HLT	1Q18	Construction FA 2	HLT	HLT	HLT	4Q18
	REL	REL	REL			REL	REL	REL			REL	REL	REL	
Crit. Safety FA 15	HLT	HLT	HLT	4Q18	Sfgrds. & Sec. FA 18	HLT	HLT	HLT	1Q18	Procurement FA 21	HLT	HLT	HLT	2Q19
	REL	REL	REL			REL	REL	REL			REL	REL	REL	
Testing FA 16	HLT	HLT	HLT	4Q18	Trnsprtn. FA 19	HLT	HLT	HLT	2Q19	Conops FA 22	HLT	HLT	HLT	2Q20
	REL	REL	REL			REL	REL	REL			REL	REL	REL	
Mgmt. Sys. FA 3	HLT	HLT	HLT	2Q19	Sfty. & Health FA 20	HLT	HLT	HLT	2Q19	Proj. Mgmt. FA 23	HLT	HLT	HLT	2Q19
	REL	REL	REL			REL	REL	REL			REL	REL	REL	
Training FA 4	HLT	HLT	HLT	4Q18	Waste Mgmt. FA 24	HLT	HLT	HLT	2Q19					
	REL	REL	REL			REL	REL	REL						

REL: CAS Reliability
HLT: PA Health Results

Good Investigate Define Actions

Independent Review

< 2 years 2 - 3 years > 3 years

SRR Nuclear Safety Culture Dashboard

Note: not actual performance data for demonstration only.



Management Leadership

- Nuclear Safety Training Hours
- Senior Mgr. MFOs Performed*
- SRR MFOs Performed*
- Employee Concerns Closure Timeliness
- Integrated Assessment Plan Schedule vs. Completed
- ORPS Categorization Timeliness
- Sig Cat 1 & 2 Closure Timeliness
- Sig Cat 1 & 2 Closure ≤ 1 Extension
- Issues Open Actions Closed
- Kiosk Feedback Closure Timeliness (lags a month)
- Self-Assessment Submitted vs. Closed

Target
Goal ≥ 8.0
 ≥ 8.0

≥ 8.0
 7.99 – 6.0
 < 6.0

Roll-up Key:

Good

Marginal

Unsatisfactory

No Data



Employee Engagement

- Employee Concerns
- New STAR Issues*
- Safety Meeting Attendance
- BBS Observations Completed*
- SA Return on Investment (ROI)
- MFO Return on Investment (ROI)



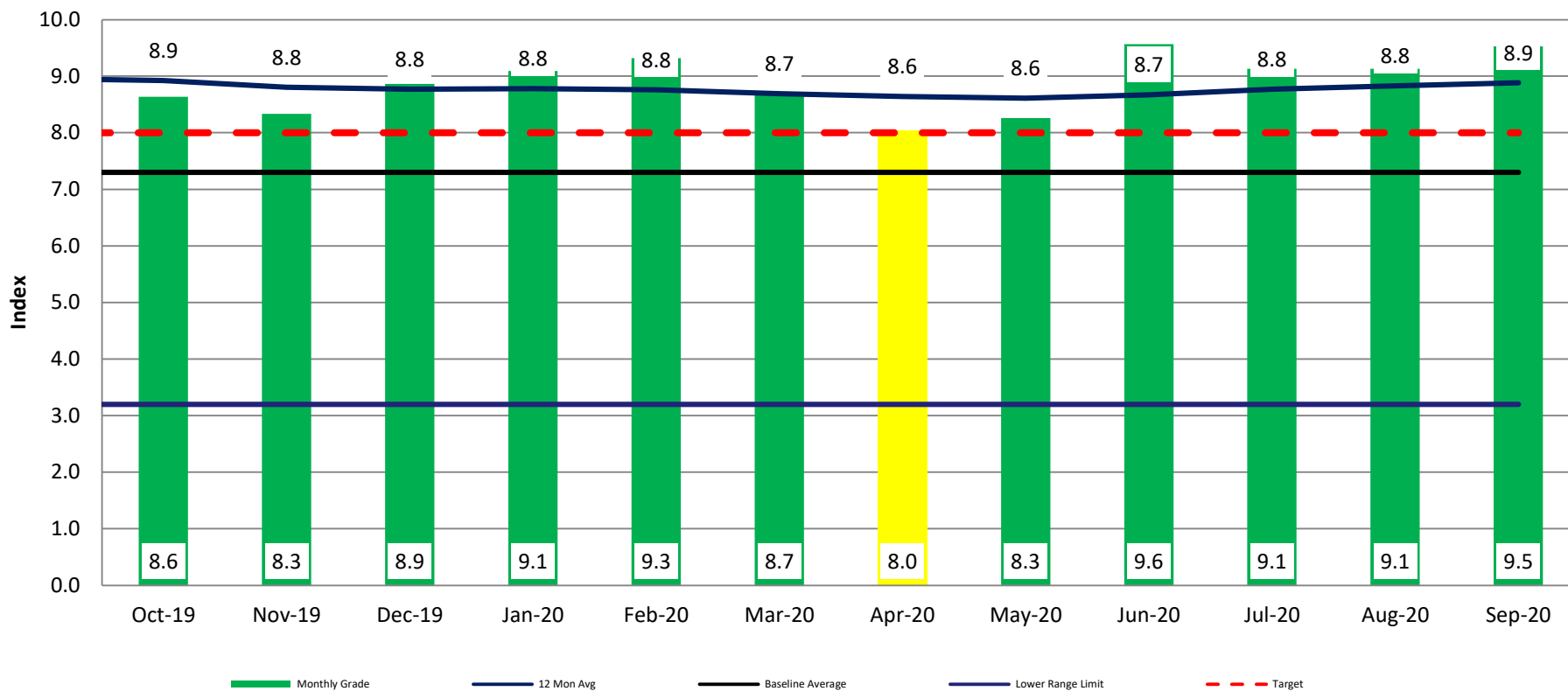
Organizational Learning

- Disciplined Operations Performance
- Self-Assessment Grading Average
- Self Identified vs. Event/External
- Corrective Action Closure Quality
- Management Field Observations Quality
- Operating Experience Applicability Screening

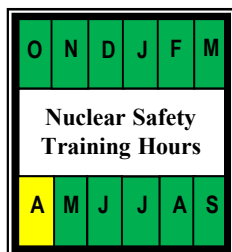
Nuclear Safety Culture Performance

Note: not actual performance data for demonstration only.

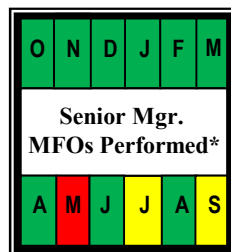
Contractor Assurance Program
Savannah River Remediation LLC
Nuclear Safety Culture Performance
12-Month Rolling



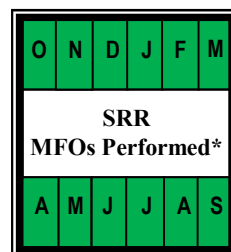
Note: not actual performance data for demonstration only.



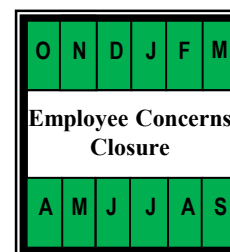
Target Goal $\geq 95\%$
 Legend: Green $\geq 95\%$, Yellow 80 – 94%, Red $< 80\%$



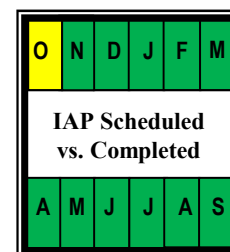
Target Goal $\geq 85\%$
 Legend: Green $\geq 85\%$, Yellow 75 – 85%, Red $< 75\%$



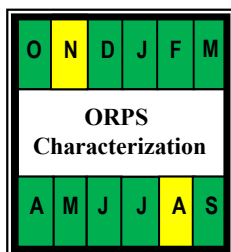
Target Goal > 330
 Legend: Green > 330 , Yellow 254 – 330, Red < 254



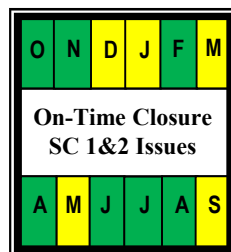
Target Goal < 60 d
 Legend: Green < 60 d, Yellow 60 – 89 d, Red > 90 d



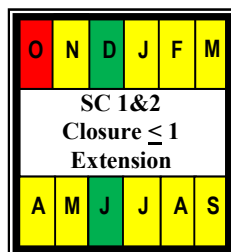
Target Goal $\geq 85\%$
 Legend: Green $\geq 85\%$, Yellow 75 – 85%, Red $\leq 75\%$



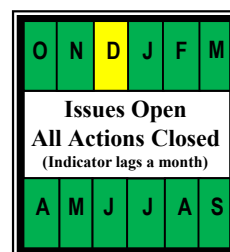
Target Goal $\geq 90\%$
 Legend: Green $\geq 90\%$, Yellow 75-89%, Red $< 75\%$



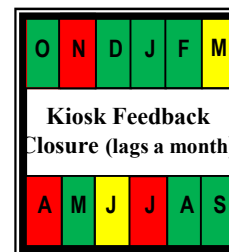
Target Goal $> 94\%$
 Legend: Green $> 94\%$, Yellow 90 – 94%, Red $< 90\%$



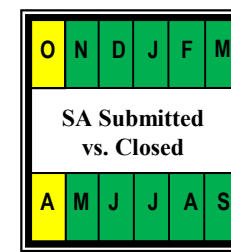
Target Goal $> 75\%$
 Legend: Green $> 75\%$, Yellow 65 – 75%, Red $< 65\%$



Target Goal $\geq 80\%$
 Legend: Green $\geq 80\%$, Yellow 70 – 80%, Red $< 70\%$



Target Goal $\geq 90\%$
 Legend: Green $\geq 90\%$, Yellow 80 – 90%, Red $< 80\%$

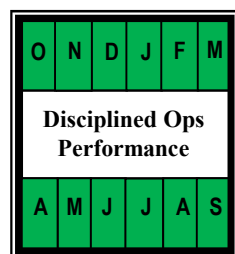


Target Goal $> 85\%$
 Legend: Green $> 85\%$, Yellow 75 – 85%, Red $< 75\%$

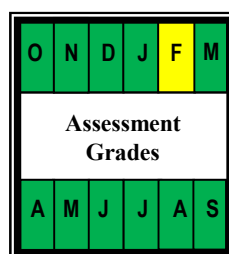
NSC Management Leadership

Composite Metric

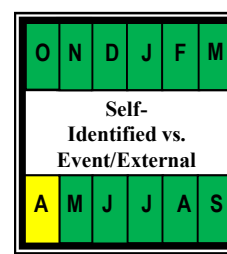
Note: not actual performance data for demonstration only.



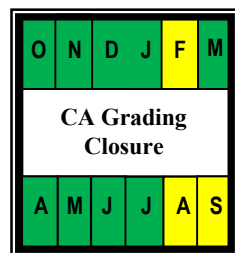
Target ■ < 3
Goal ■ 4 - 5
■ ≥ 6



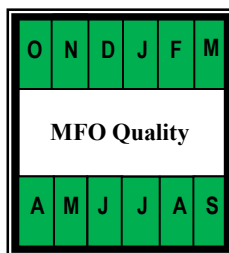
Target ■ ≥ 90%
Goal ■ 80 - 89%
■ < 80%



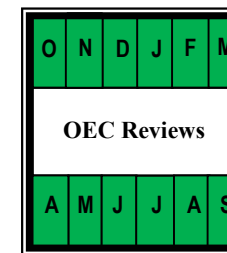
Target ■ ≥ 85%
Goal ■ 75 - 85%
■ ≤ 75%



Target ■ ≥ 90%
Goal ■ 80 - 90%
■ < 80%



Target ■ > 90%
Goal ■ 80 - 90%
■ < 80%



Target ■ > 3
Goal ■ 1-3
■ 0

NSC Organizational Learning

Composite Metric

**Note: not actual
performance data for
demonstration only.**

Safety Index

Target Goal $\geq 80\%$

FYTD
82.8%

TRC

Target Goal ≤ 0.43

FYTD
0.40

DART

Target Goal ≤ 0.23

FYTD
0.21

Cumulative Dose

Goal $\leq 12.5\%$ Variance
from ALARA Target Goal

CYTD
 \leq
12.5%

Radiological Control Severity Index

Goal $\leq 75\%$

Rolling
27%

Environmental Compliance Index

Goal < 1.0 per Month

Rolling
0.0

Assessments Grades

Goal $\geq 85\%$
per Month

Rolling
94.1%

Self-Identified Issues

Goal $\geq 85\%$
per Month

Rolling
90.1%

Dis. Ops. Severity Rate

Goal < 7.5
per Month

Rolling
3.9

Scheduled Task Completion

Goal $\geq 75\%$

Rolling
80.3%

Add-On Work

Goal $\leq 25\%$

Rolling
21.8%

PM Deferrals

Goal $\leq 1.7\%$

Rolling
1.1%

PMs Late/ Extended

Goal ≤ 5 /Month

Rolling
0.7/mo

NSC Dashboard

Goal
Average ≥ 8.0

Rolling
8.8

Improvements for Performance Analysis

- Power-BI: A pilot study showed promise to update dashboards and metrics in near real time.
- Potentially assigning weighting factor (risk) to foundation metrics. Currently all foundation metrics are assigned a weighting factor of 1.

Challenges

- Receiving timely updates from indicator owner.
- Responsiveness of indicator owner to action an underperforming indicator.
- Review of Indicators to determine if fit for purpose.
- Reduce the time effort to maintain the performance analysis dashboards and metrics.