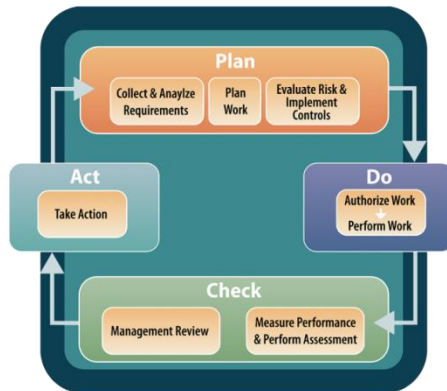




FY16 Q4 Measures and Metrics Report for Corporate Procedures:
Manage Risks, CG100.6.1
Determine, Plan, and Perform Assessments, CG100.6.3
Determine and Take Action, CG100.6.6

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Executive Summary

This quarterly summary report addresses measures and metrics as they pertain to risk, evaluation, and corrective action records in the Assurance Information System (AIS). This quarterly report is the product of a combined effort by the Risk, Assessments, and Take Action procedure subject matter experts (SMEs) to analyze the available data, primarily data from the AIS corporate application. The purpose of this report is to monitor implementation and identify improvement opportunities.

This report is distributed for information to key points of contact throughout Sandia National Laboratories as well as to Sandia Field Office (SFO) Stakeholders.

The results from this effort are captured as a quarterly assessment in AIS (record # [30508](#)).

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- | | | |
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What is AIS?

AIS is the prescribed corporate application for:

- Documenting assessments in accordance with [CG100.6.3](#), *Determine, Plan and Perform Assessments*,
- Documenting and managing issues in accordance with Corporate Procedure [CG100.6.6](#), *Determine and Take Action*, and
- Documenting and managing executive¹ risks in accordance with the lifecycle identified in Corporate Procedure [CG100.6.1](#), *Manage Risk*.

AIS is a module-based system of records aligned with the processes listed above. Additionally, the evaluation module can be used to record other activities performed by Sandia, such as benchmarking, customer satisfaction, or lean six sigma activities. The evaluation module has two documentation paths: documenting a completed activity and results (such as management surveillance or walkthroughs, or external audits) and documenting a scheduled activity, the associated elements of the scheduled plan, and the results. The corrective action module can be used to document and link identified causes and actions when a causal analysis is performed. The correct action module can also be used to document completed or in-progress actions when a causal analysis is not performed.

¹ Required roles are President, EVP-NS, EVP-MS, corporate Policy Owner, Program Management Unit Executive (NW PMU Executive Vice President, and Vice Presidents for the DSA, EC, and IHNS PMUs), Division VP, Center Director, Corporate Policy Owner, Executive Policy Sponsor, and Corporate Policy Area Manager.

Note: In late Q1 2017, an evaluation will be conducted by Centers 9540 and 700 to determine a recommendation for the continued use of AIS, the release a simplified version of AIS in FY17, or transition to a commercial, off-the-shelf (COTs) Governance, Risk Management, and Compliance (GRC) application.

Results

AIS Risk Records

As of 10/17/2016, AIS contained 274 open risk records of which seven are current Labs-Level risks. Characterization of risks is generally well-documented in nine associated fields including: If/Then statements, individual and entity risk ownership, risk level, and others.

An analysis of AIS risk records identified concerns in two key areas:

1. **AIS Risk Record field completion and management requires improvement.** 10% of the AIS risk records with a mitigation response do not contain documented controls. There is no documented monitoring activity to determine effectiveness for 42% of AIS risk controls. In the last year, no modifications have been made to 59% of records older than one year.
2. **AIS Required Use by those in an executive role (92) continues at less than target.** FY16Q4 usage was 51% - essentially unchanged over the last 14 quarters. Although Center Director use improved slightly from the FY16Q1 baseline of 27% to a FY16Q4 result of 33%, the use of AIS by that role is a key contributor to low usage. Policy Area Manager (PAM) use remained unchanged, and below target, throughout FY16 at 42%. (Details are available on page 8 in Figure 1 Heat Map of Required Role Usage.)

Table 1: AIS Risk Record Status

Open AIS Risk Records as of 10/17/2016 Total Open AIS Risk Records: 274	
<i>Status and Counts</i>	
<i>In Progress</i>	145
<i>Awaiting Response Entry</i>	5
<i>Awaiting Control Entry</i>	26
<i>Awaiting Monitoring Entry</i>	98

AIS Evaluation Records

Trends in the assessment area are flat and FY16Q3 observations remain valid. The observations from last quarter are:

1. **The FY16Q3 Labs-level percentage of closed assessments and audits identifying actionable results is 33%, which is 20% lower than in previous quarters and at its lowest level since FY14Q3.** The percentage has been declining over the past four quarters.
2. **The criterion for assessment quality reviews may have areas where the criteria and realistic execution of process are not in alignment.**

Actions to address these observations are captured in AIS (record # [44457](#)).

Table 2: AIS Evaluation Record Status

Open AIS Evaluation Records as of 10/17/2016		
<i>Total Open AIS Evaluation Records: 1211</i>		
Type	Planned in AIS (522)	Documented After Completion (689)
<i>Status and Counts</i>		
<i>In Progress</i>	331	123
<i>Awaiting Plan Acknowledgement</i>	83	<i>n/a</i>
<i>Awaiting Result Entry</i>	24	90
<i>Awaiting Final Results Acknowledgement</i>	17	<i>n/a</i>
<i>Awaiting Responsible Manager Assignment</i>	5	15
<i>Awaiting Responsible Manager Action Path Selection</i>	10	43
<i>Awaiting Review and Closure</i>	52	418

AIS Corrective Action Records

Trends indicate that the number of corrective action records created per quarter is declining. Additionally, there is a downward trend in the number of corrective actions included in the timeliness measure. These two downward trends may indicate declining AIS usage. AIS data also indicates a large percentage of corrective action records that have been open for an extended period of time (over one year). It is possible that many of the long-term open corrective action records were completed but lack finalized documentation within the AIS application. It is unclear if the records reflect the actual status of corrective actions.

These insights were identified in previous quarterly reports and continue to be monitored and addressed. Specifically, previous reports observed that:

Q4 FY16 AIS-Based Measures and Metrics Summary: Risk, Assessment, Take Action

1. A significant number of corrective action records are over one year old and still awaiting cause or action entry (81 of 252 open corrective action records with causal analysis and 208 of 339 open corrective action records without causal analysis). Of the 1,053 open corrective action records 56% are over one year old. Actions for this observation are tracked in AIS (record # [45632](#)).
2. The AIS Timeliness metric is not an accurate indication of corrective action performance to plan and is subject to misunderstanding. Actions for this observation are tracked in AIS (record # [39272](#)).
3. The average number of days late for Executive Support Division (ESD)/1/2/3, Division 5000, and Division 10000 late actions is between six and 12 months. Actions for this observation are tracked in AIS (record # [39275](#)).
4. Approximately 50% of all corrective action records have been open for over a year, indicating a potential records management problem. Actions for this observation are tracked in AIS (record # [39273](#)).
5. The number of AIS corrective action records created every quarter is declining. Likewise, the number of corrective action records that are closed every quarter is declining. Actions for this observation are tracked in AIS (record # [39274](#)).

Table 3: AIS Corrective Action Record Status

Open AIS Corrective Action Records as of 10/17/2016 <i>Total Open AIS Corrective Action Records: 1107</i>		
Type	Action <i>with</i> Causal Analysis (325)	Action <i>without</i> causal analysis (782)
<i>Status and Counts</i>		
<i>In Progress</i>	29	<i>n/a</i>
<i>Awaiting Cause Entry (Connection to Responses)</i>	111	<i>n/a</i>
<i>Awaiting Action (Response) Entry</i>	4	459
<i>Awaiting Response Submit for Approval</i>	4	<i>n/a</i>
<i>Awaiting Response Approval</i>	16	<i>n/a</i>
<i>Awaiting Action (Solution) Completion</i>	23	191
<i>Awaiting Action (Solution) Verification</i>	19	<i>n/a</i>
<i>Awaiting Validation Method Selection</i>	82	<i>n/a</i>
<i>Awaiting Validation Completion</i>	37	<i>n/a</i>
<i>Awaiting Review and Closure</i>	<i>n/a</i>	132

Risk

This section examines measures derived from AIS Risk Records and associated metrics captured on the Group 750 Scorecard. The purpose is to understand the implementation of [CG100.6.1, Manage Risks](#) based on evidence in AIS, recognizing that AIS is a small segment of the overall risk information systems used at Sandia. The grid below provides a summary and status of actions from prior quarter analyses.

Note: All application enhancements as well as revisiting required use of AIS for executive risks are in a “hold” status pending the FY17 Q1 planned decision on the continued use of AIS as previously noted.

Table 4: Previous Quarters Risk Observations and Status

Year/Qtr	Observation/Issue	Link to Action	Status
FY16Q1 and Q2	A set of seven AIS risk-related improvement/enhancement actions were identified in FY16Q1 and Q2. These actions are captured in Team Forge, the AIS development tracking system, and/or in AIS CA Records #39022 and #39023 to investigate user and stakeholder needs for AIS Enhancements. At the beginning of Q3, a management decision within Group 750 changed the status of these improvements to “on hold” with consideration to be revisited in 2017.	AIS CA Record #39022 and #39023 :	Funding and AIS priorities permitting, will be considered for late FY17 development
FY16Q2	#1 Further investigation is warranted into a 20% reduction, from FY16Q1 to FY16Q2, in the number of AIS evaluation records associated to risk controls being monitored by an assessment.	AIS CA Record #40788	Same issue for Q3, analyze further (Q4)

Labs Level Risks

Seven identified Labs-level risks, owned by the president and laboratories director, are recorded in AIS. The AIS record numbers and executive control owners are listed in Table 5.

Table 5: Executive Control Owners for Labs Level Risks

Labs-Level Risk Topic	Executive Control Owner	AIS Record ID
1. Safety Culture	M. Hazen	22197
2. Explosives Safety	G. Sanders	22198
3. Security Incidents	M. Hazen	37462
4. Labs Responsiveness	J. Plummer	22199
5. Cyber Security	L. Napolitano	22200
6. Talent Management	M. Parker	22195
7. Site Facilities & Infrastructure	M. Hazen	22203

Executive Level Risks Reported on the Group 750 Scorecard

Required Use by Executive Roles Required to Document Risks in AIS: This metric measures the percentage of roles that have AIS records—open or closed—as required by [CG100.6.1, Manage Risks](#). The metric is calculated by comparing the number of required roles² with AIS risk records to the total number of roles required to utilize AIS. 92 executive roles are required to document their risks in AIS. Of that 92, only 47 (51%) have associated records in the AIS application. The target is 100%.

Figure 1 illustrates AIS use for the required roles. Table 6 summarizes the percentage of each required role with associated AIS records.

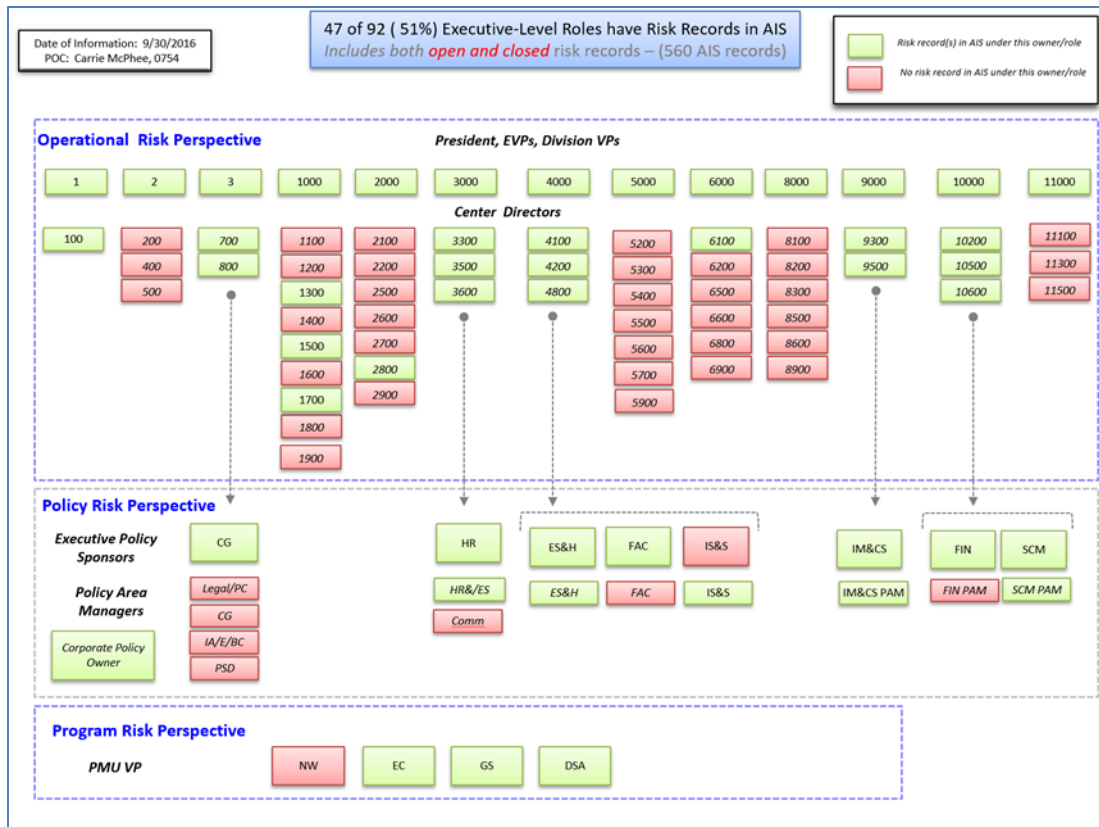


Figure 1: Heat Map of Roles Required to Use AIS with Open or Closed Records

Observation #1: AIS Required Use by those in an executive role (92) continues at less than target. FY16Q4 usage was 51% - essentially unchanged over the last 14 quarters. Although Center Director usage improved slightly from the Q1 baseline of 27% to a FY16Q4 result of 33%, the use of AIS by that role is a key contributor to low usage. Policy Area Manager usage remained unchanged, and below target, throughout FY16 at 42%.

² Required roles are President, EVP-NS, EVP-MS, corporate Policy Owner, Program Management Unit Executive (NW PMU Executive Vice President, and Vice Presidents for the DSA, EC, and IHNS PMUs), Division VP, Center Director, Corporate Policy Owner, Executive Policy Sponsor, and Corporate Policy Area Manager.

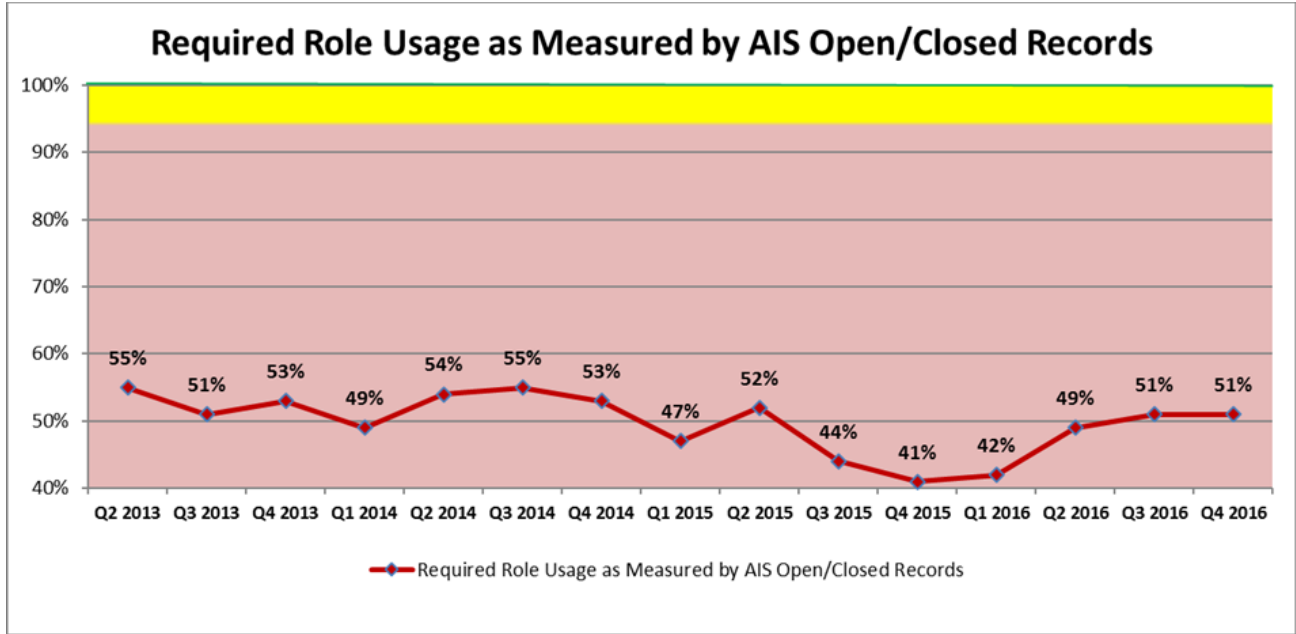


Figure 2: Quarterly Representation of AIS Risk Records for Required Roles

Table 6: Required Roles Data Table

Role Name	# of These Roles @ Sandia	FY16 Q1	FY16Q2	FY16Q3	FY16Q4
		% of Roles	% of Roles	% of Roles	% of Roles
President	1	100%	100%	100%	100%
EVP-NS	1	100%	100%	100%	100%
EVP-MS	1	100%	100%	100%	100%
PMU Executives	4	75%	75%	75%	75%
Division VPs	10	100%	100%	100%	100%
Center Directors	55	27%	31%	33%	33%
Exec Policy Sponsors	8	88%	88%	88%	88%
Policy Area Managers	12	42%	42%	42%	42%
Totals	92	42%	49%	51%	51%

Historically, AIS usage those roles required to document risks in AIS has not changed significantly since FY13Q2. All application enhancements as well as revisiting required use of AIS are on “hold” status pending a FY17Q1 planned decision to continue with AIS or to move to a GRC application:


- In FY16Q3, low AIS usage increased slightly by those roles required to document risks in AIS (per [CG100.6.1](#), *Manage Risk*). As communicated in the FY16Q1 report, a plan to address the low AIS use by executives was developed and documented in AIS (record # [34990](#)). An element of the plan was to revisit the requirement.
- Additionally, the [CG100.6](#) process and procedure managers directed the Risk SME, in conjunction with appropriate stakeholders, to (1) develop guidance when executive risks should be documented in AIS and (2) revise the corporate procedure to reflect the use of the guidance, rather than preserve a role-based requirement. AIS usage for documenting Labs-level risks will continue to be required.

At the end of Q3, a “risk event” was planned with Mission Support Team (MST) for July which would include a discussion of AIS use. The event was moved until Q4 and re-scoped to a MST training session.

Open AIS Risk Records

There were 273 open risk records at the end of FY16Q4 with an average age of 965 days. Although risks are generally enduring, Table 7 reflects an 23% increase average age.

Table 7: Age of Open AIS Risk Records

	FY16Q1	FY16Q2	FY16Q3	FY16Q4	Notable changes/Trends
# of Open, AIS Risk Records	274	290	290	273	
Average Age (days)	784	818	869	965	

Open AIS Risks by Entity: Table 8 displays AIS open risk records managed by various entities. Minor fluctuations in counts occurred during FY16. Twenty records are not associated with an entity.

Table 8: Open AIS Risk Records by Entity

	Entity Name	FY16Q1	FY16Q2	FY16Q3	FY16Q4
Divisions	Executive Division (1,2,3)	9	9	9	9
	Division 1000	26	26	26	26
	Division 2000	6	6	6	6
	Division 3000	11	11	11	15
	Division 4000	15	22	22	23
	Division 5000	2	2	2	2
	Division 6000	5	5	5	5
	Division 8000	20	20	20	20
	Division 9000	6	4	3	4
	Division 10000	13	13	11	6
	Division 11000	0	0	0	0
Policy Areas	Corporate Governance	12	11	11	10
	Environment, Safety & Health	36	37	37	37
	Facilities	1	1	1	1
	Finance	8	9	9	9
	Human Resources	11	11	11	9
	Info Mgmt. /Cyber Security	3	3	4	2
	Integrated Safety & Security	33	43	43	32
Supply Chain Management	3	3	4	4	
Programs	NW	13	13	13	13
	EC	5	5	5	5
	GCS (prev. IHNS)	6	7	7	7
	DSA	1	1	1	1
	LDRD & CTO	3	3	3	6
	Not assigned to specific entity	27	21	19	20
	Total Open Records	274	290	289	273

AIS Risk Management Index: The index, deployed in FY16Q3, is a monitoring activity associated with AIS Risk #16144, Department 754 Procedures Implementation, specifically relating to CG100.6.1, Manage Risk. The index measures AIS Risk Records and is reported at the Labs level. The index is a weighted average of two categories, risk characterization (40%) and addressing/monitoring risks (60%). Addressing/monitoring risks is weighted higher to reflect the importance of addressing/monitoring identified risks.

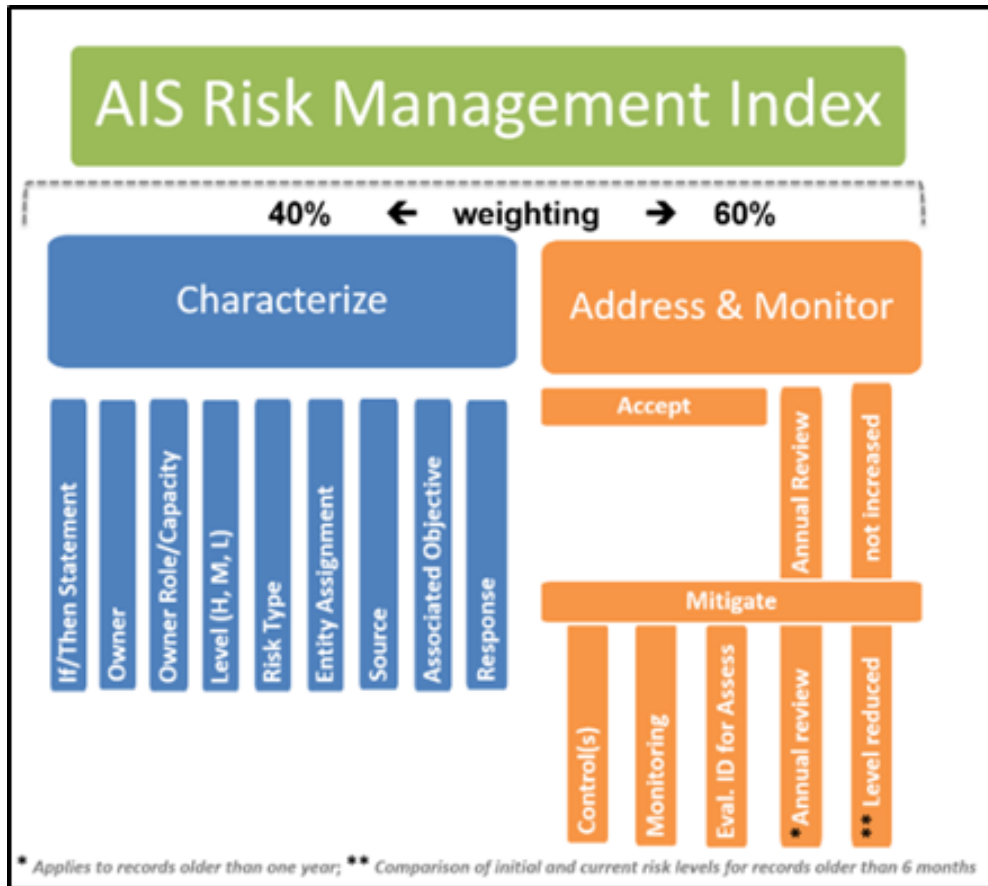


Figure 3: New Risk Management Index

The FY16Q4 index value declined to 69% from the FY16Q3 baseline of 72%, largely due to a reduction of AIS records modified within the last 12 months. The FY16Q4 index value suggests a decline in overall records management. Figure 4 lists the 14 sub-measures of the AIS Risk Index and their FY16 quarterly values.

Q4 FY16 AIS-Based Measures and Metrics Summary: Risk, Assessment, Take Action

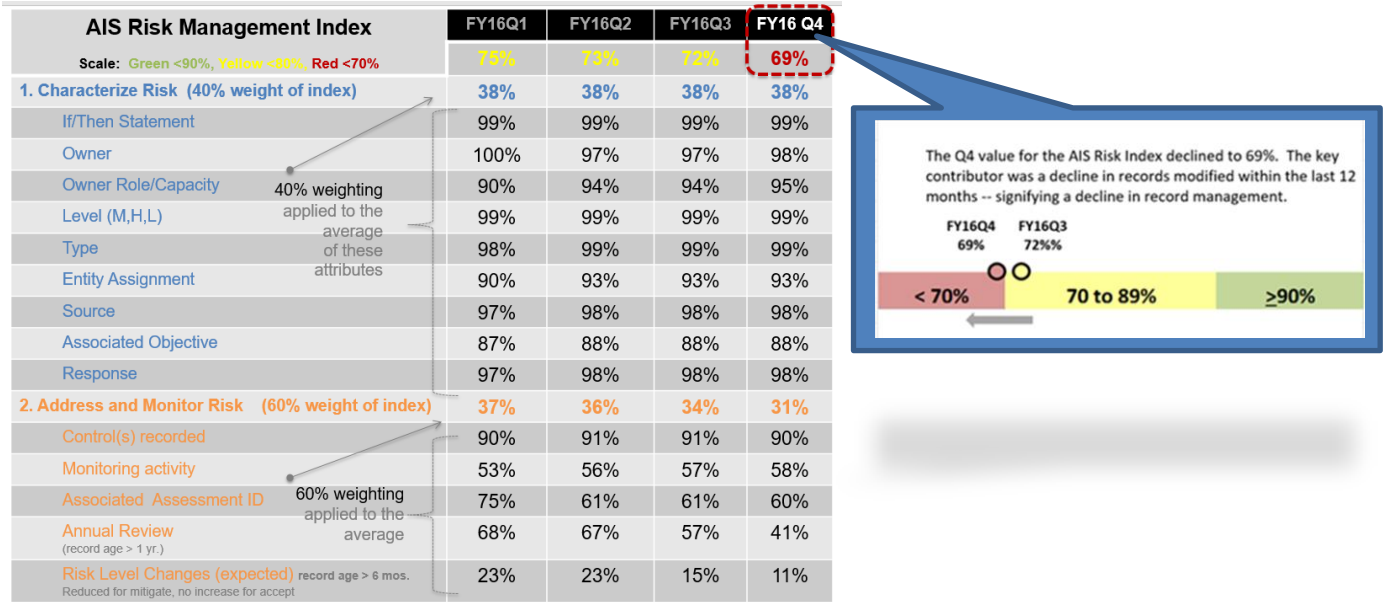


Figure 4: AIS Risk Index –Sub Measures and Quarterly Values

Observation: AIS Risk Record field completion and management requires improvement. 10% of the AIS risk records with a mitigation response do not contain documented controls. There is no documented monitoring activity to determine effectiveness for 42% of AIS risk controls. For records older than one year, no modifications have been made to 59% of those records in the last year.

Supplemental Insights to AIS Risk Records

Record Visibility: Thirty-five AIS risk records (13%) are marked private; the percentage increased between FY16Q3 and FY16Q4. There was not a significant change in counts by entity. The seven Labs-level risk Level records continue to be marked private.

Table 9: Private Records by Entity

Entity with <i>Private</i> Risk Records	Number of Private Records			
	FY16Q1	FY16Q2	FY16Q3	FY16Q4
Division 4000		1	1	2
Division 5000	1	1	1	1
Division 8000	1	1	1	1
Division 9000	2	1	1	2
ES&H	2	2	2	2
Human Resources	1	1	1	1
Integrated Safety & Security	8	11	12	14
IHNS		1	1	1
Nuclear Weapons	1	1	1	1
Undefined	10	10	9	10
Number of Private Records	26	30	30	35
% of Open Risk Records Marked Private	10%	10%	10%	13%

Risk Owners: Table 10 captures the number of individual risk owners for each entity’s open risk records. The number of risk owners declined by approximately 10% in FY16 as shown in the table below. The decrease is due to insignificant changes across multiple entities.

Table 10: Number of Owners by Entity for Open AIS Risk Records

	Entity Name	FY16Q1	FY16Q2	FY16Q3	FY16Q4
Divisions	Division 1 (ESD)	1	1	1	1
	Division 2 (ESD)	1	1	1	1
	Division 3 (ESD)	3	3	1	1
	Division 1000	5	5	5	5
	Division 2000	3	2	3	3
	Division 3000	7	5	7	7
	Division 4000	6	10	10	10
	Division 5000	2	2	2	2
	Division 6000	2	2	2	2
	Division 8000	4	4	4	4
	Division 9000	3	3	2	4
	Division 10000	3	3	3	2
	Division 11000	-	-	-	-
Policy Areas	Corporate Governance	7	6	5	5
	Environment, Safety & Health	19	17	17	17
	Facilities	1	1	1	1
	Finance	6	8	7	7
	Human Resources	7	7	8	7
	IM/Cyber Security	3	3	4	2
	Integrated Safeguards & Security	11	17	18	19
	Supply Chain Management	1	1	1	1
Programs	NW	9	9	9	9
	EC	2	2	2	2
	GCS (previously IHNS)	2	2	2	2
	DSA	1	1	1	1
	LDRD & CTO	1	1	1	1
	Not assigned to specific entity	9	9	9	5
	Total Unique Risk Owners	119	111	105	106

Risk Type: Table 11 displays the 273 open AIS risks characterized by type. The first five rows in the table below show the five types that were consistently recorded throughout FY16.

Table 11: Types of Open AIS Records

# of Records by AIS Risk Type	FY16Q1	FY16Q2	FY16Q3	FY16Q4
BUS - Business	57	57	56	48
PPM - Project/Program/Mission	50	51	52	52
ESH - Environment, Safety and Health	46	54	56	55
HR - Human Resources Management	40	40	40	43
SEC - Security	40	45	44	35
FIN - Finance	14	15	15	15
IM - Information Management	9	10	10	8
FAC - Facilities	5	5	5	5
Not specified	5	4	2	3
Other, specify	6	6	6	6
PROC - Procurement	2	3	3	3

Risk Source: Table 12 displays the 273 open AIS risks characterized by source. Management Review remained the primary source of risk identification throughout FY16.

Table 12: Identification Source of Open AIS Risk Records

# of Records by AIS Risk Source	FY16Q1	FY16Q2	FY16Q3	FY16Q4
Management review	187	191	190	185
Planned work	25	30	32	21
Preventative action	24	29	29	28
Assessment/Evaluation	14	17	16	16
CRO: Labs-Level Risk	9	8	8	8
Not specified	9	8	6	7
Causal analysis extent of condition	3	3	4	4
Customer feedback	3	4	4	4

Risk Management: Measures and Insights of Open AIS Records

Annual Review Requirement³: (as determined using the AIS record *last modified date*): [CG100.6.1, Manage Risk](#), requires an annual risk review to determine if the nature of risks has changed and that, if needed, the controls to mitigate the risk remain appropriate and effective.

Table 13: Unmodified Open Risk Records

	FY16Q1	FY16Q2	FY16 Q3	FY16 Q4	Trend
% of records older than one year and not modified within the last year <i>(values were revised in Q4 to reflect records with age > 1 year)</i>	32%	33%	43%	59%	

Risk Response: 257 (91%) of the 273 open risk records have a recorded risk response of “mitigate.” Five records (2%) do not yet have a recorded risk response. A notable change through FY16 was an increase in the percent of risks being mitigated and the reduction of those with a response of “accept” (See Table 14).

Table 14: Risk Response Type Distribution

Risk Responses	FY16Q1		FY16Q2		FY16Q3		FY16Q4		Trend
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	
Accept	32	12%	31	11%	15	5%	9	3%	
Avoid	1	<1%	1	<1%	4	1%	2	1%	
Mitigate	233	85%	248	86%	263	91%	257	94%	
None Recorded	8	3%	7	2%	7	3%	5	2%	

Recorded controls for risks with Mitigate Response: **Of the 273 open risk records with a response of mitigate, 26 records (10%) do not have controls recorded (see Table 15 and Table 16).**

Table 15: Records with Mitigation Response Without Controls

Controls for risks being mitigated	FY16Q1		FY16Q2		FY16Q3		FY16Q4		Trend
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	
No documented controls	24	10%	23	9%	23	9%	26	10%	

³ Determined using the AIS record *last modified date*.

Table 16: Mitigated Risks without Recorded Controls


Entities	# of records without controls where “Mitigate” is response			
	FY16Q1	FY16Q2	FY16Q3	FY16Q4
Division 1000	8	10	10	8
Division 2000	1	1	1	1
Division 3000				7
Division 8000	2	2	2	2
Division 10000	4	4	4	0
Environment, Safety & Health	3	3	3	3
Human Resources	1	1	1	1
IS&S	1			0
EC	1	1	1	1
No entity assigned	3	1	1	3

Types of Recorded Controls for Risk Mitigation: There are 490 recorded controls in the 273 open risk records. Of the three types of controls, “administrative” is the most frequently identified (see Table 17).

The descriptions for the three types of risk controls are:

- Administrative- Actions or activities that provide direct instruction typically written in the form of rules.
- Engineered- Actions or activities that make use of physical elements in the working environment that modify or limit undesired consequences.
- Behavior - Observable and non-observable efforts or actions that influence group or individual behavior.

Table 17: Types of Recorded Controls

Recorded Controls	FY16Q1		FY16Q2		FY16Q3		FY16 Q4		Trend
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	
Administrative	357	82%	418	82%	419	83%	404	83%	
Engineered	29	7%	31	6%	26	5%	26	5%	
Behavioral	50	11%	60	12%	59	12%	60	12%	
Avg. number of controls per open record	1.60		1.75			1.74		1.80	
Total	436		509		504		490		

Monitoring of Risk Controls: One or more of three types of monitoring activities (measure, check, assess) may be recorded for each control. One control may have more than one monitoring activity.

Q4 FY16 AIS-Based Measures and Metrics Summary: Risk, Assessment, Take Action

At the close of FY16Q4, monitoring activities were not recorded for 217 (43%) of the 490 recorded risk controls. For the other 273 controls, a total of 480 monitoring activities are identified with “check” as the most frequently identified method (see Table 18). Note that the numbers below are based on the number of monitoring activities per control (not the number of risk records or controls).

Table 18: Monitoring Activities per Control

Monitoring Activities per control	FY16Q1		FY16Q2		FY16Q3		FY16Q4	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
None	206	47%	224	44%	217	43%	204	42%
One or more	230	53%	285	56%	288	57%	286	58%
Total controls	442		509		504		490	
Monitoring Activity = Assess	142		146		145		151	
Monitoring Activity = Check	253		259		257		231	
Monitoring Activity = Measure	47		55		73		98	

There are no assessments planned for 28 controls where the selected monitoring activity is “Assess.” For these controls, as associated records, it appears that there are no planned activities to assess whether the associated control(s) are effectively mitigating the risk (see Table 19).

Table 19: Controls with “Assess” Monitoring Method without an Associated AIS Assessment Record

Entity	FY16Q1	FY16Q2	FY16Q3	FY16Q4
Executive Support (1,2,3)	7	4	4	5
Environment Safety & Health	5	7	4	7
1000	2	1	1	1
Corporate Governance	2	2	1	
3000	0	1		
Human Resources	2	2	1	1
Integrated Safety & Security	2	5	2	8
Nuclear Weapons	2	2		1
4000	1	3	3	3
6000	1	1	1	1
Supply Chain Management	1	1		1
Not assigned to an entity			4	
Total	25	29	21	28

Changes in Risk Level: For risks that are being mitigated with records older than 6 months, risk level reductions are reflected in AIS as shown in Table 20 below.

Table 20: Quarterly Risk Level Changes

FY/Q	Decreased
FY16Q1	23%
FY16Q2	23%
FY16Q3	15%
FY16Q4	11%

Based on information in the open AIS risk records, mitigation activities may have been effective in reducing the risk level. Performance will continue to be monitored closely in future quarters.

Closed AIS Records: Closed AIS risk records are not currently monitored.

Assessment and Evaluation

This section examines measures and metrics derived from AIS Evaluation records. The purpose here is to understand the implementation of [CG100.6.3](#), *Determine, Plan and Perform Assessments*, as well as gain insights regarding the identification of issues from all evaluation types captured in AIS.⁴

Sources of Data

The following eight AIS evaluation types were selected by the assessment SME, Center 700 management, MST, and LLT. The eight selected AIS evaluation types provide data for the majority of the evaluation metrics contained in this section of this report.

AIS evaluation types selected to provide evaluation metric data:

1. Line Assess Line
2. Policy Area Assess Adequacy
3. Policy Area Assess Implementation
4. Independent Appraisal
5. Operational Readiness Review
6. Readiness Assessment
7. Readiness Review
8. Sandia Sponsored Independent Audit

Open Assessment Evaluation Records

The number of open assessment records has increased from 466 in FY16Q3 to 530 in FY16Q4. Figure 5 provides the quarterly trend of open assessment records for FY16.

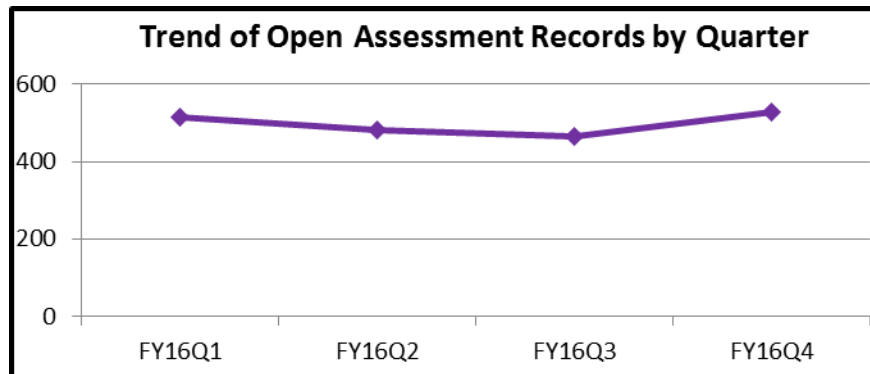


Figure 5: Trend of Open Assessment Records in FY16

⁴ All assessments are types of evaluations, but not all evaluations are assessments. The specific evaluation types with descriptions governed by the [CG100.6.3](#), *Determine, Plan and Perform Assessments* procedure are: Line Assess Line, Policy Assess Implementation, Policy Assess Adequacy, Corrective Action Validation Assessment, and Surveillance/Walkthrough.

Figure 6 summarizes data from AIS evaluation records that were open at the end of the quarter. The data is categorized by Division, Policy Area, and Program Management Unit (PMU).

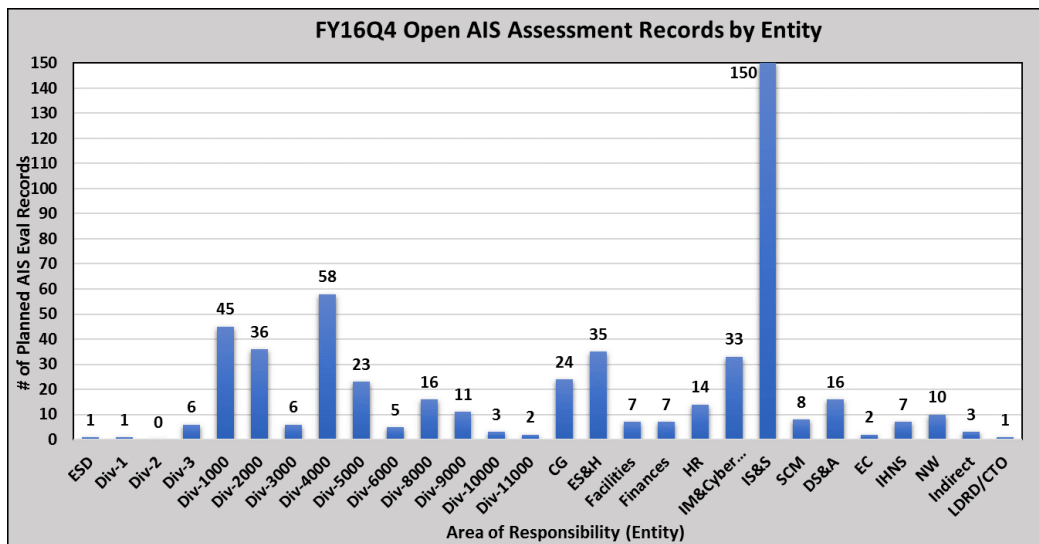


Figure 6: AIS Open Assessment Records in the Quarter

Note: The open AIS assessment data shows that activities in Division 4000 (Environmental Safety and Health, Facilities, and Integrated Safeguards and Security) account for 250 of the 530 open records (47%). Integrated safeguards and security alone accounts for 28% of all open assessments in this data set. Feedback provided to the Division 4000 Quality Partner from the Division 4000 quality assurance group indicated that a large volume of preplanned compliance assessments in three policy areas drive the high number of open evaluation records. Also it is the division practice to keep records open until the follow-on corrective action records have closed, lengthening the open period for the record.

Closed Assessment Evaluation Records

Figure 7 depicts the trend comparing the number of AIS assessment records closed and created in each quarter from FY14Q4 through FY16.

The number of assessments closed in a given quarter is relatively constant, but the number of assessments created has an annual peak in the fourth quarter for the past two years. This is most likely the result of annual planning cycles such as the annual assessment reminder sent during the 4th quarter of every year. The reminder encourages entities to begin planning and documenting their planned assessments and other evaluations in AIS for the next upcoming fiscal year. A final list of AIS planned evaluations is sent to the Sandia Field Office at the end of quarter four in support of their Site Integrated Assessment Plan.

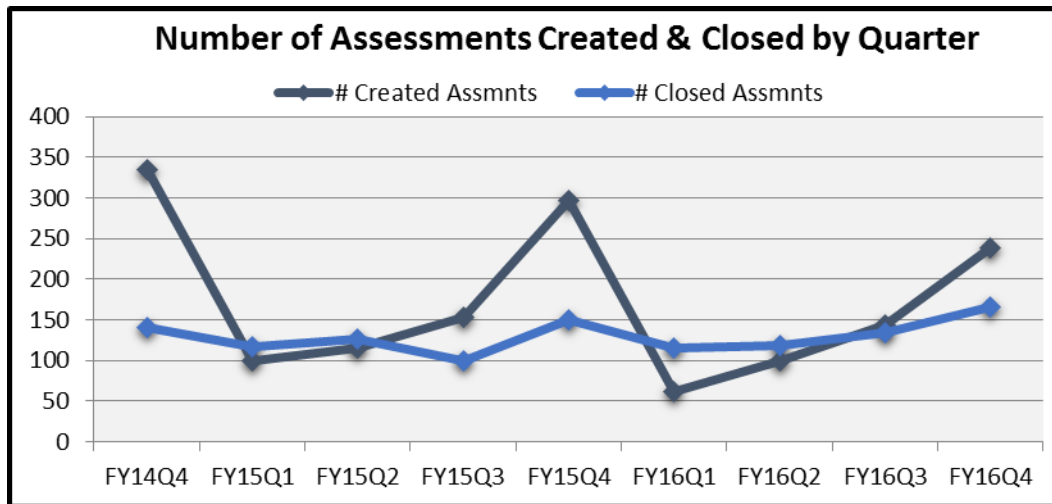


Figure 7: Comparison of Created and Closed Assessments by Quarter

Percent of Assessments Identifying Actionable Results: The purpose of this metric is to evaluate the effectiveness of Sandia’s audits and assessments in identifying opportunities for improvement in the form of Findings or Observations. “Actionable results” are assessment outcomes categorized as Findings or Observations.

This metric is calculated by taking the number of AIS assessment records closed during a given quarter with at least one Finding or Observation documented and dividing that number by the total number of records. At least 66% of the assessments are expected to result in actionable results (the “green” target for this metric.)

Lab-level summary results for past quarters are shown in Figure 8 and Table 21, and Table 22 provides entity-specific information.

“No Data” indicates that there were no assessments (AIS evaluation records of the eight assessment types) closed in the quarter. To review the data supporting the values below, see the linked [file](#), which contains all applicable AIS assessment records closed and their associated entity (Area of Responsibility) within the quarter as of 10/3/2016.

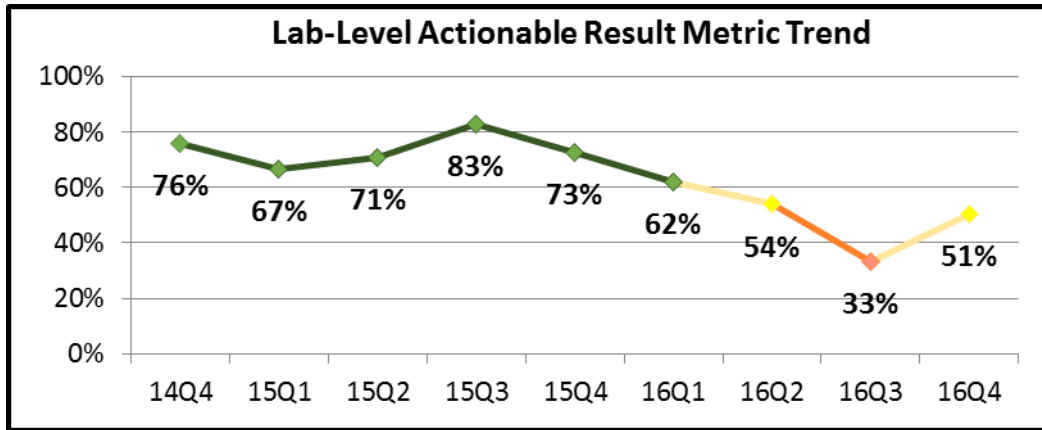


Figure 8: Closed Assessment Actionable Result Trend

Note: The FY16Q4 Labs-level percentage of closed assessments and audits identifying actionable results is 51%, which is up by 20% from last quarter. This may be due to increased volume of record closure within the quarter. This metric will continue to be monitored.

Table 21: Volume of Assessments Closed Over Time by Quarter Closed

Volume of Assessments Closed Over Time by Quarter				
Quarter	Assessments without	Assessments with Actionable Results	Total # of Assessments	% with Actionable Results
14Q4	34	107	141	76%
15Q1	39	78	117	67%
15Q2	37	90	127	71%
15Q3	17	83	100	83%
15Q4	41	109	150	73%
16Q1	44	72	116	62%
16Q2	52	66	118	54%
16Q3	96	48	144	33%
16Q4	83	85	168	51%

Q4 FY16 AIS-Based Measures and Metrics Summary: Risk, Assessment, Take Action

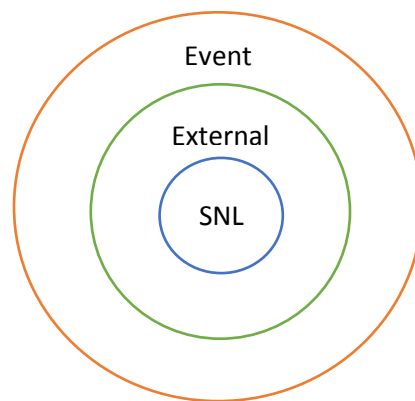
Table 22: Actionable Results Metric Entity-Specific Data

FY16Q4 AIS Closed Assessments/Audits Identifying Actionable Results (By Entity)					*No Data = No Quarter data due to no assessments closed in AIS in the quarter							
Area of Responsibility	Assessments without Actionable Result	Assessments with Actionable Result	Total # of Assessments Closed in FY16Q4	FY16Q4 % of Assessments (Applicable AIS Eval Types) with Actionable Results	FY16Q3	FY16Q2	FY16Q1	FY15Q4	FY15Q3	FY15Q2	FY15Q1	FY14Q4
DIVISIONS												
1				No Data	100%	No Data	No Data	No Data	No Data	No Data	No Data	No Data
2				No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
3		2	2	100%	No Data	0%	No Data	No Data	No Data	No Data	No Data	No Data
1000	3	2	5	40%	43%	93%	69%	77%	90%	37%	78%	63%
2000	26	12	38	32%	14%	19%	29%	47%	64%	25%	64%	94%
3000		1	1	100%	No Data	No Data	50%	0%	No Data	100%	100%	No Data
4000	4	8	12	67%	100%	86%	67%	84%	82%	83%	73%	65%
5000				No Data	17%	100%	0%	0%	86%	0%	17%	57%
6000	2		2	0%	0%	17%	0%	50%	100%	No Data	0%	100%
8000	1	20	21	95%	100%	0%	0%	50%	100%	No Data	50%	100%
9000		1	1	100%	No Data	67%	100%	No Data	100%	No Data	No Data	67%
10000	1		1	0%	0%	100%	67%	75%	No Data	No Data	50%	100%
11000				No Data	0%	No Data	0%	No Data	No Data	No Data	No Data	No Data
POLICY AREAS												
CG	7	9	16	56%	55%	33%	80%	71%	86%	93%	100%	77%
ES&H	2	9	11	82%	50%	71%	88%	92%	100%	86%	83%	78%
Facilities				No Data	No Data	100%	100%	100%	50%	No Data	No Data	100%
Finance	4	3	7	43%	100%	0%	0%	67%	50%	100%	33%	50%
HR	3	1	4	25%	No Data	100%	0%	0%	0%	No Data	100%	50%
IM&Cyber		4	4	100%	67%	67%	67%	83%	57%	67%	75%	67%
IS&S	29	4	33	12%	25%	57%	33%	68%	50%	81%	100%	100%
SCM		2	2	100%	75%	100%	60%	80%	100%	No Data	100%	50%
PROGRAMS												
DS&A				No Data	No Data	0%	100%	100%	100%	77%	50%	0%
EC		1	1	100%	No Data	No Data	No Data	No Data	100%	No Data	No Data	No Data
IHNS		2	2	100%	0%	No Data	100%	100%	100%	0%	No Data	100%
NW	1	4	5	80%	100%	No Data	67%	100%	88%	100%	0%	100%
CTO/LDRD				No Data	100%	No Data	No Data	No Data	No Data	No Data	No Data	No Data
Indirect - IMS				No Data	No Data	No Data	0%	100%	No Data	No Data	No Data	No Data
Total Assessments (Lab Level)	83	85	168	51%	33%	56%	62%	73%	81%	71%	67%	76%

Sources of Findings and Observations: This measure provides management with a distribution of findings and observations identified in AIS records closed in the quarter indicating how close to or far from the work issues are found (i.e. Internal - “We found it” vs. External - “They found it” vs. Event - “It found us”). **Error! Reference source not found.** and **Error! Reference source not found.** depict this model.

Note: This measure does not reflect the quarter in which these findings and observations were identified, occurred, or were recorded.

Who’s finding our problems or improvement opportunities?



How close to or far from the work are we finding problems or improvement opportunities?

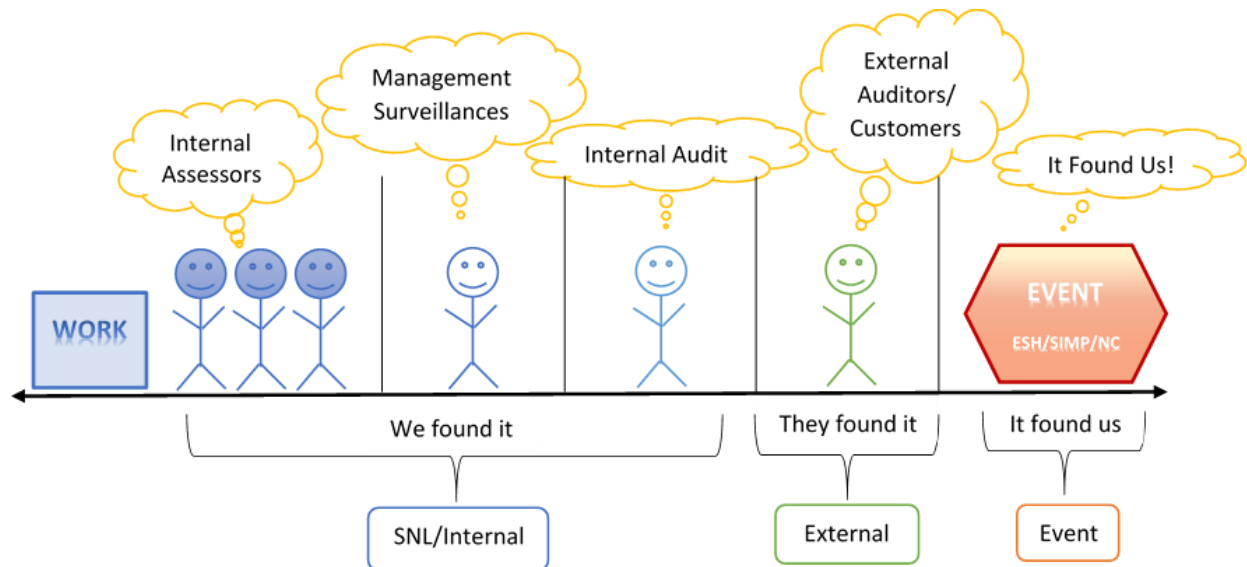


Table 23 categorizes evaluation types according to their identification source. The table shows where issues (Findings and Observations) are identified. The charts capture the number and percent of issues found internally, externally, or due to an event occurring using data from records closed in the quarter.

Figure 9 and Figure 10 provide the quarterly trend of identified issues or opportunities and events by number and percentage.

Table 23: Categorization Table of Issue Identification Source

Evaluation Type	Identification Source
Analysis and Trending	Internally-Identified
Benchmarking	
Corrective Action Validation	
Implementation Validation Review	
Independent Appraisal	
Lean Six Sigma Activity	
Line Assess Line	
Management Review	
Operational Readiness Reviews	
Readiness Reviews	
Readiness Assessment	
Personnel/Employee Feedback	
Policy Area Assess Implementation	
Policy Assess Adequacy	
Sandia Sponsored Independent Audit	
Surveillance/Walkthrough	Externally Identified
Customer Input/Feedback	
Non-Sandia Sponsored Independent Audit	Event
ES&H Occurrence	
Product Rejection /Non-conformance	
SIMP Inquiry	

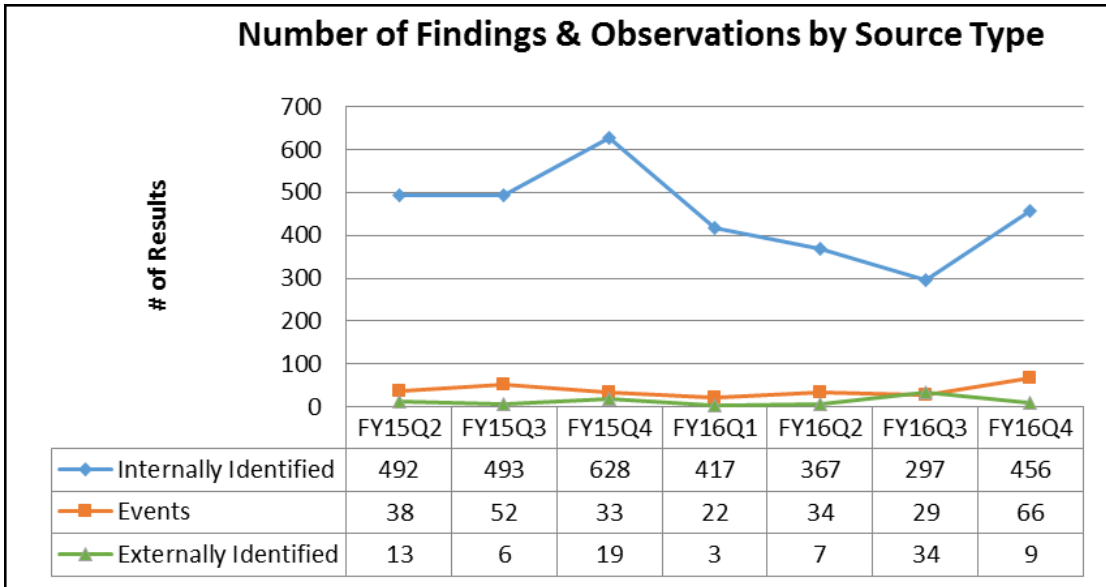


Figure 9: Number of Findings and Observations by Identification Source

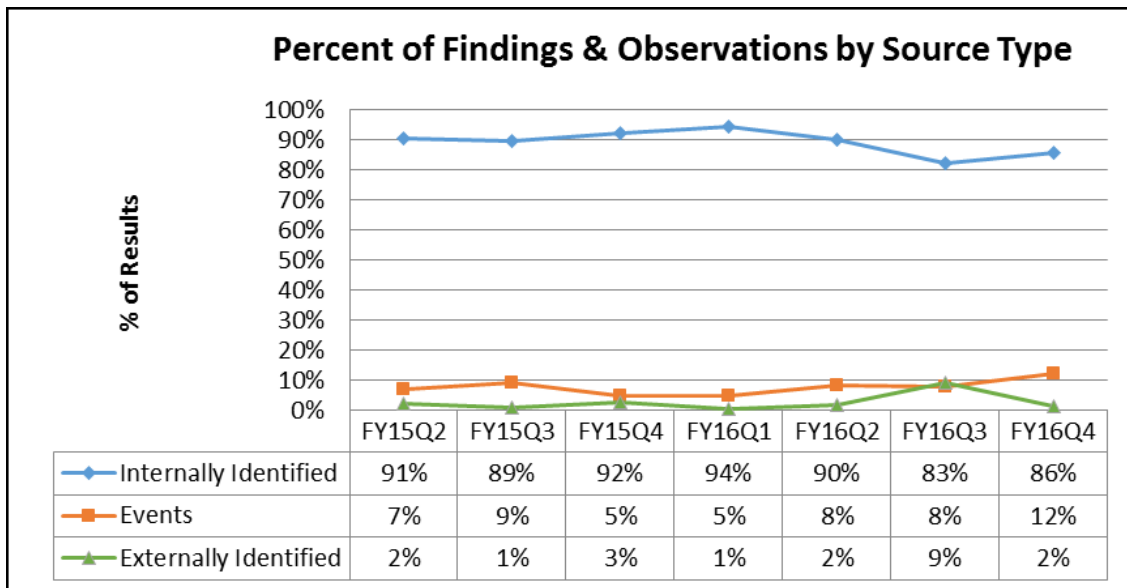


Figure 10: Percent of Total Findings and Observations by Identification Source (new categorization)

Q4 FY16 AIS-Based Measures and Metrics Summary: Risk, Assessment, Take Action

The data in Table 24 lists sources of findings and observations for the past seven quarters. Note that Division 2000 had a noticeable number of event-type issues (indicated by orange highlighting), and Divisions 1000, 2000, 6000, and 8000 had a noteworthy number of internally-identified issues or opportunities closed this quarter (indicated by blue highlighting).

Table 24: Sources of Findings and Observations - Last Six Quarters by Division

	Internally Identified-Q2 FY15	Internally Identified-Q3 FY15	Internally Identified-Q4 FY15	Internally Identified-Q1 FY16	Internally Identified-Q2 FY16	Internally Identified-Q3 FY16	Internally Identified-Q4 FY16	Events-Q2 FY15	Events-Q3 FY15	Events-Q4 FY15	Events-Q1 FY16	Events-Q2 FY16	Events-Q3 FY16	Events-Q4 FY16	External Identified-Q2 FY15	External Identified-Q3 FY15	External Identified-Q4 FY15	External Identified-Q1 FY16	External Identified-Q2 FY16	External Identified-Q3 FY16	External Identified-Q4 FY16	
ESD	5	3		2	3		3															
Div 1						1	1															
Div 2		1					6		3				1				2					
Div 3			2	1	5		3						1									
Div 4									2													
Div 1000	64	68	101	96	85	39	58	4	3	4	17		3			13						
Div 2000	11	26	21	31	80		50	22	37	6	10	28	16	49		7						
Div 3000	5	7				4	2		1							26						
Div 4000	46	36	111	115	117	27	39		1	2				3	17	5	7			17		
Div 5000	16	46	5	6	6	5	8	2		2												
Div 6000	16	24	40	5	17	23	53	1												2		
Div 8000	17	14	20	146	94	31	48			3				2			4					
Div 9000	8	10	2	11	47	5	11		1	5				1			3	13				
Div 10000	9	3	18	4	7	3	1	2	3	5				1	1		7					1
Div 11000																						

Data in Table 25(Policy Area data) indicates that Corporate Governance and ES&H Policy Areas also have noteworthy numbers of internally-identified issues or opportunities.

Table 25: Sources of Findings and Observations- Last Six Quarters by Policy Area

	Internally Identified-Q2 FY15	Internally Identified-Q3 FY15	Internally Identified-Q4 FY15	Internally Identified-Q1 FY16	Internally Identified-Q2 FY16	Internally Identified-Q3 FY16	Internally Identified-Q4 FY16	Events-Q2 FY15	Events-Q3 FY15	Events-Q4 FY15	Events-Q1 FY16	Events-Q2 FY16	Events-Q3 FY16	Events-Q4 FY16	External Identified-Q2 FY15	External Identified-Q3 FY15	External Identified-Q4 FY15	External Identified-Q1 FY16	External Identified-Q2 FY16	External Identified-Q3 FY16	External Identified-Q4 FY16	
CG	11	15	26	16	1	37	63								1		16		3			
CG- Internal Audit	NA	NA	1	20	26					NA					NA	NA	NA					
ES&H	55	69	84	62	26	19	51		1						5	3	9		6	13	6	
Facilities		18	1	23	3		1		1		10											
Finance	1	1	2			3	4														18	
HR					7		1															
IM & Cyber	8	17	27	11	6	5	18													11	2	
IS&S	46	9	23	7	55	13	5			27	31	7		6				7				
Supply Chain			11	2	1	18	5													10	1	

Data in Table 26 indicates that the overall number of Program self-identified issues for FY16Q4 is steady with the previous quarter. Additionally, there are very few evaluation results captured in AIS for this entity type (PMUs).

Table 26 Sources of Findings and Observations- Last Six Quarters by Program and PMU

	Internally Identified-Q2 FY15	Internally Identified-Q3 FY15	Internally Identified-Q4 FY15	Internally Identified-Q1 FY16	Internally Identified-Q2 FY16	Internally Identified-Q3 FY16	Internally Identified-Q4 FY16	Events-Q2 FY15	Events-Q3 FY15	Events-Q4 FY15	Events-Q1 FY16	Events-Q2 FY16	Events-Q3 FY16	Events-Q4 FY16	External Identified-Q2 FY15	External Identified-Q3 FY15	External Identified-Q4 FY15	External Identified-Q1 FY16	External Identified-Q2 FY16	External Identified-Q3 FY16	External Identified-Q4 FY16
Indirect Program Management		2																			
Integrated Mission Support Programs			1		2	1															
DSA PMU	11	16		6																	
EC PMU		3		5	1	4	2												2		
IHNS PMU	1	17	5		1		3														
NW PMU	2	13	18	1	11	7	18							5	12	12	10				

Manager Engagement in Assessments: Assessments are generally most valuable and effective when the applicable management is engaged.

Figure 11 depicts the percentage of assessments⁵ that contain evidence of management review of the assessment plan, as well as their acknowledgement of final results. FY16Q4 metric results are “red” at 59% which is down by 15% from previous quarters 29 of the 49 closed, planned, line & policy assessments (59%) contained or linked to evidence of management engagement. Twenty records did not contain evidence of either a plan or final result review/acknowledgement, or both. Of the twenty records, thirteen contained evidence of only the plan review/acknowledgement, four contained evidence of only the final result review/acknowledgement, and three did not contain evidence of either the plan or the final result review/acknowledgement. This metric will continue to be monitored.

Note: management surveillance assessments are not included in this metric.

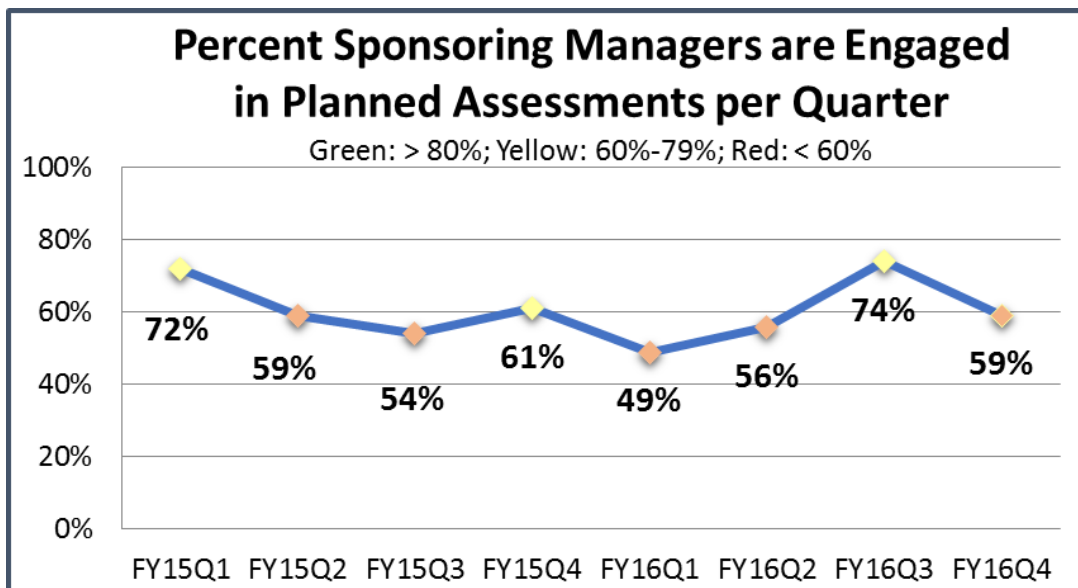


Figure 11: Management Engagement in Assessments

Quality of Assessments: This quarterly metric evaluates whether assessment documentation is complete and credible.

The data set for this metric includes all planned line and policy assessment records closed within the quarter. Records are reviewed against weighted criteria in Attachment 1: Assessment Quality Review Criteria and assigned a score for each set of criteria on a scale of 1 (low) to 4 (high/exemplary). The metric’s acceptable level of performance is an average score of 3 or better, indicating an adequate or acceptable assessment record. The assessment record quality review Labs-level score for FY16Q4 is 2.7. Figure 12 shows the trend of the Labs-level score over the past two years.

⁵ Assessments that were planned in advance, closed during FY16Q4, and types include line assess line, policy area assess implementation, and policy area assess adequacy.

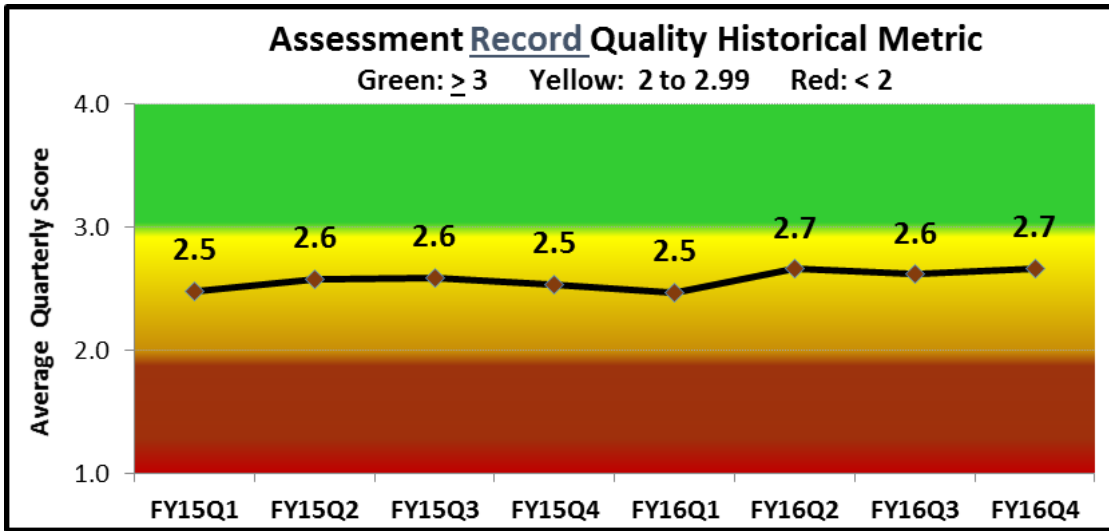


Figure 12 Assessment Quality Trend

Figure 13 shows the individual record scores that make up the lab level average for FY16Q4.

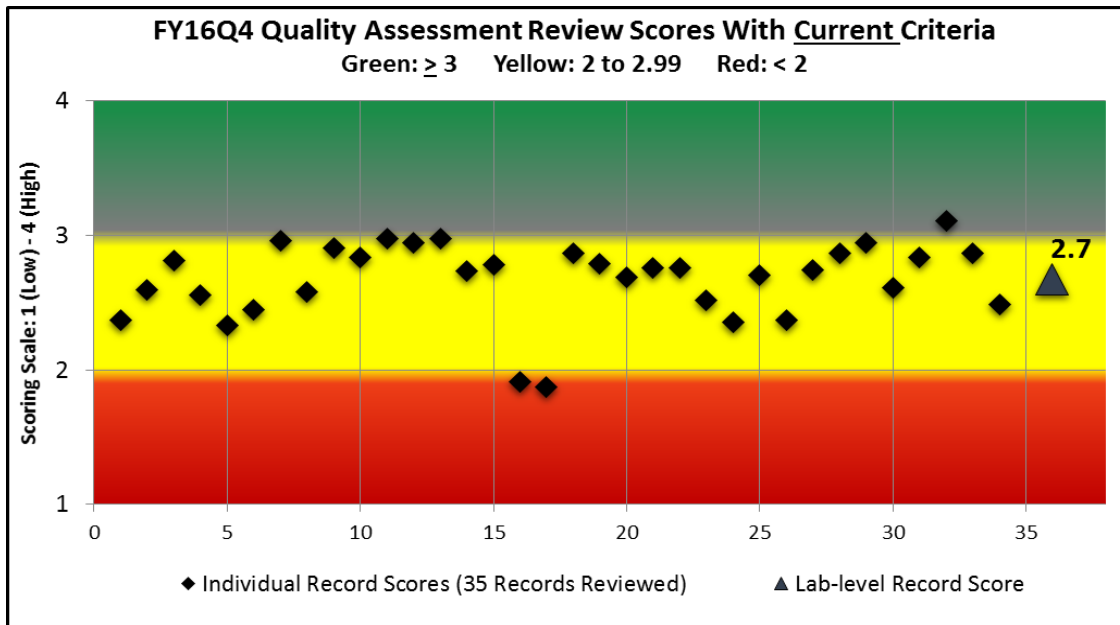


Figure 13: Individual Record Score Comparison Compared to Lab-Level Score

Figure 14 reflects the trend of the average Labs-level scores by major assessment process element (identify, plan, conduct, and review). This data provides information on the Labs-level assessment element, strong areas, and growth areas according to the quality review scoring and weighting criteria in Attachment 1: Assessment Quality Review Criteria. Assessment result identification, categorization, and

documentation of evidence in support of assessment results are slowly improving from previous quarters.

Assessment Process elements include assessment identification, planning the assessment, conducting the assessment, and reviewing assessment results. Assessment identification verifies that assessment types (line assess line, policy area assess adequacy, policy area assess implementation) are aligned with the activity performed. Planning the assessment verifies that all assessment planning components (who, what, why, where, when, how) are identified and aligned with the activity performed. When conducting the assessment the data collection techniques are identified and aligned with the activity. The included in the record should provide evidence to support that the data collection actually occurred. Reviewing assessment results verifies that assessment results are identified, categorized correctly, and that they address the purpose of the assessment, and include evidence that supports the assessment outcomes.

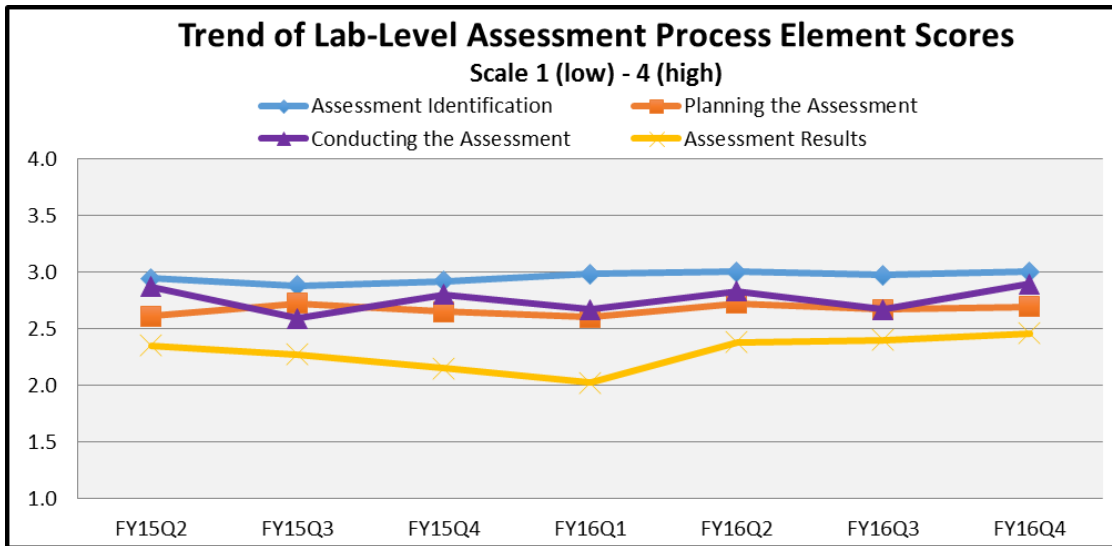


Figure 14: Assessment Lab-Level Score by Assessment Element

Take Action

This section highlights behaviors in the interface between corporate procedures [CG100.6.3, Determine, Plan and Perform Assessments](#), and [CG100.6.6, Determine and Take Action](#), by looking at the decision paths made out of the assessment process. This section also provides insights about other implementation attributes of [CG100.6.6, Determine and Take Action](#).

Action Path Selection

All Findings or Observations require a decision on the action path to address the identified issue or opportunity for improvement, options are:

1. Perform Causal Analysis
2. Take Action Without Causal Analysis
3. Link to other Open Corrective Action Plan
4. Take No Action

Figure 15 and **Error! Reference source not found.** reflect the action path selections made for Findings and Observations over the past seven quarters for evaluation records closed within the related quarter.

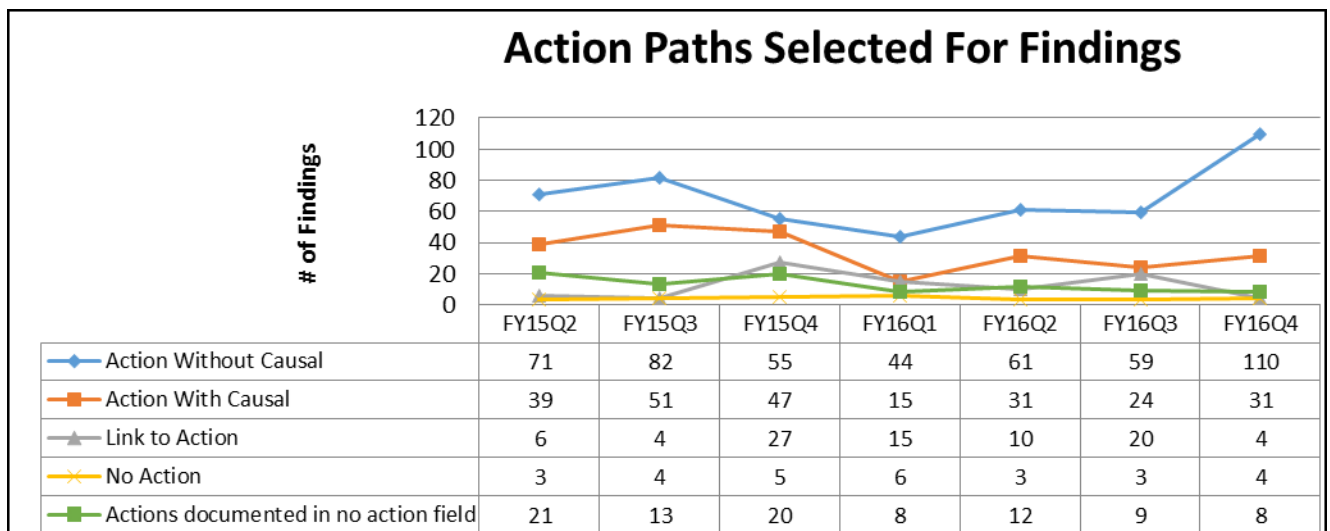


Figure 15: Action Path Selection for Findings

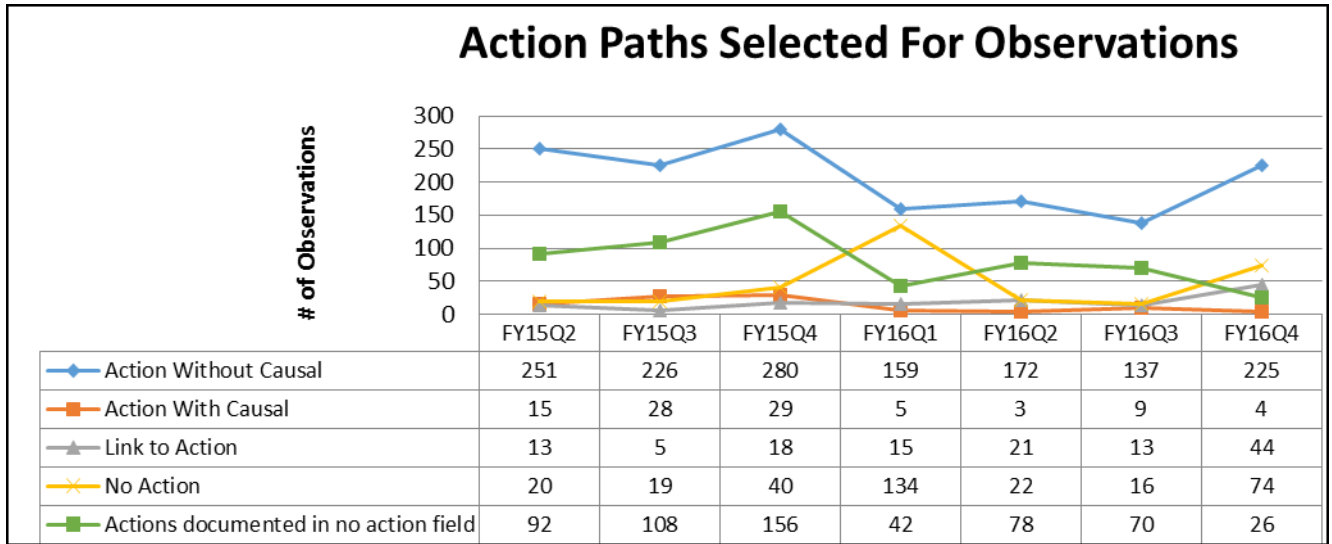


Figure 16: Action Path Selection for Observations

AIS users continue to document actions in the “No Action Field.” Manual review of the “no action” selections identified several reasons for this behavior. Figure 17 depicts a Pareto Analysis of the actions documented in this manner. The data set includes Findings and Observations closed in FY16Q3 and FY16Q4 where “No Action” was the selected action path. The analysis indicates that users most frequently document “on the spot” or immediate actions in the “no action” field within the evaluation module. This behavior has been brought to the attention of the AIS product owner and development team several times. Feedback from the development team indicated that changes to the evaluation module design to allow users to document immediate actions in a different way would require significant application modifications.

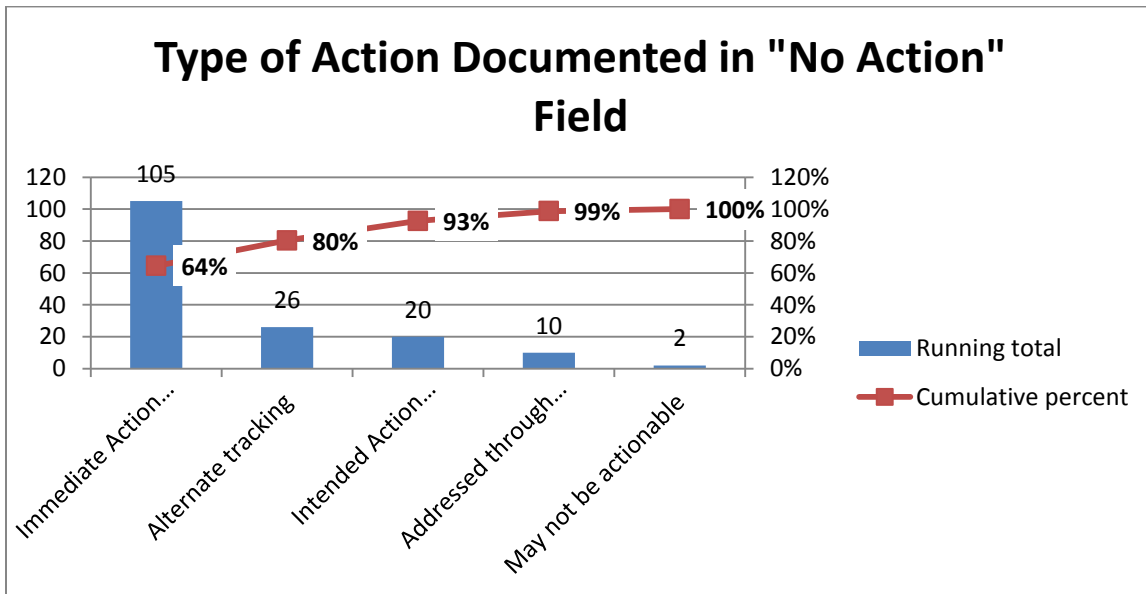


Figure 17: Types of Actions Documented in “No Action” Field

Of the 210 findings or observations where “No Action” was selected, only 47 (22%) were instances where no action had been taken. Figure 18: identifies the reasons why actions were not taken for these 47 instances in FY16Q3 and FY16Q4. Pareto Analysis identified that the most frequent reason for not taking action was that the finding or observation identified conditions that were acceptable. This analysis is meant to address observation number four from Q2FY16’s trending analysis, captured in AIS (record # [30502](#)). This data will continue to be analyzed.

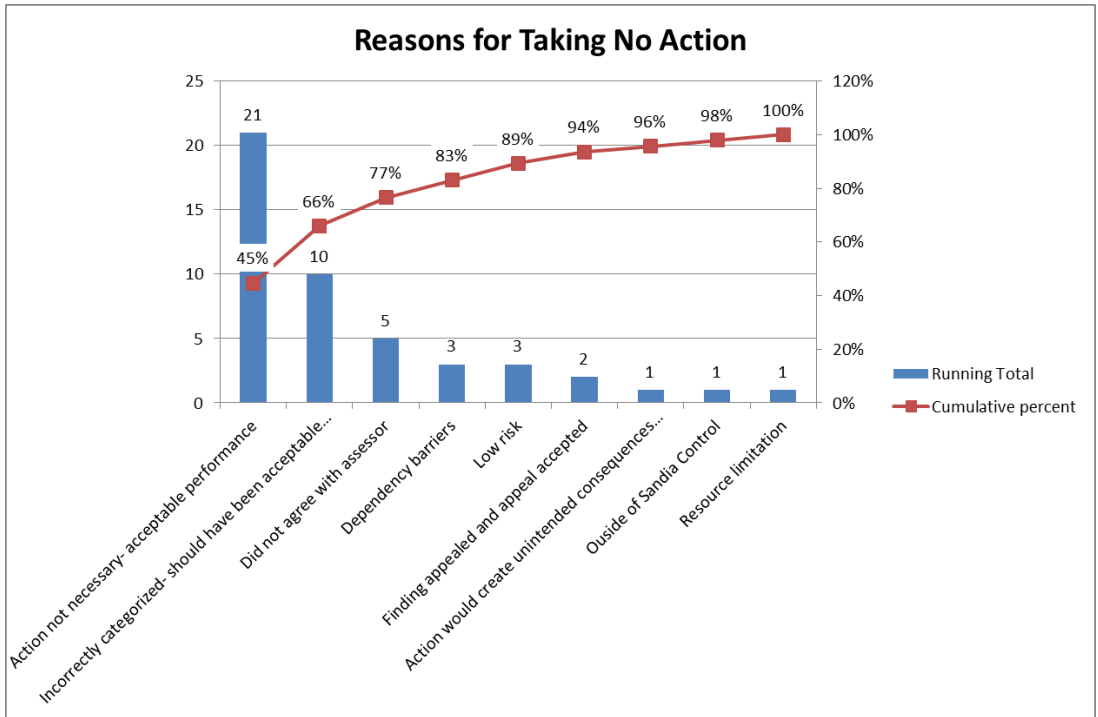


Figure 18: Reasons for Taking No Action

Use of other tracking tools: Reference to several action tracking tools (outside of AIS) are identified in the “no action” selections. The majority of these refer to actions tracked in eBridge, which has an approved exemption to the use of AIS. Local tracking systems are more concerning, but at this time do not represent a frequency high enough to prompt action. This information will continue to be monitored.

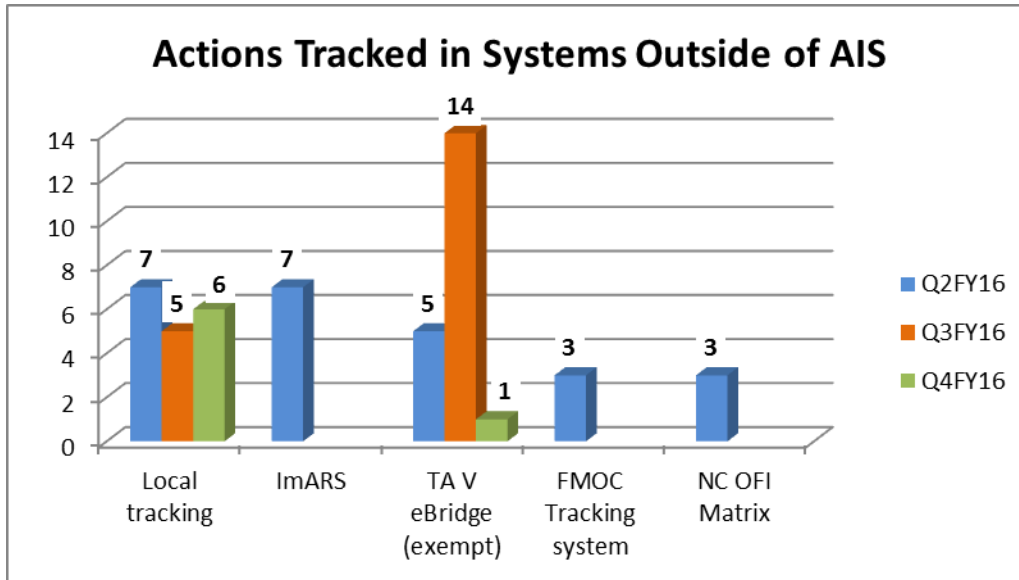


Figure 19: Alternate Tracking Tools

Corrective Action Timeliness

Figure 20 and Figure 21 provide insight into the timeliness of Sandia’s open corrective actions documented in AIS. The data represents two action paths: “Action in-Progress” and “Create a New Action.” If each corrective action record had only one corrective action, this timeliness measure would represent 22.5% of open corrective action records. Frequently more than one action is captured per record, and due to this fact this data is representative of less than 22.5% of the open records.

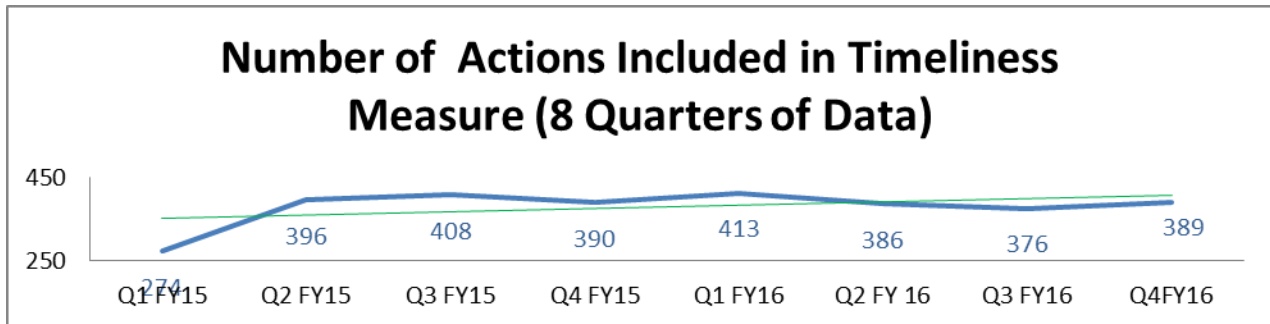


Figure 20: Number of Actions included in Timeliness Measure

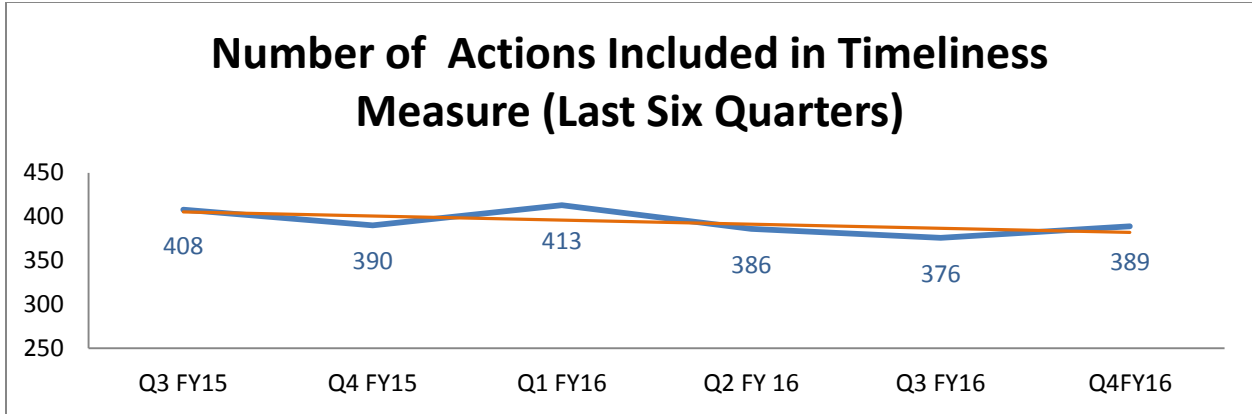


Figure 21: Number of Actions Included in Timeliness Measure (Last Six Quarters Only)

The trend indicates that the total number of open actions (included within the timeliness measures) has increased in the past two years. However, over the last six quarters, the timeliness measure is trending slightly downward. This could indicate the approximate “steady-state” number of actions within AIS. The *Determine and Take Action* SME will continue to monitor this trend for further insights.

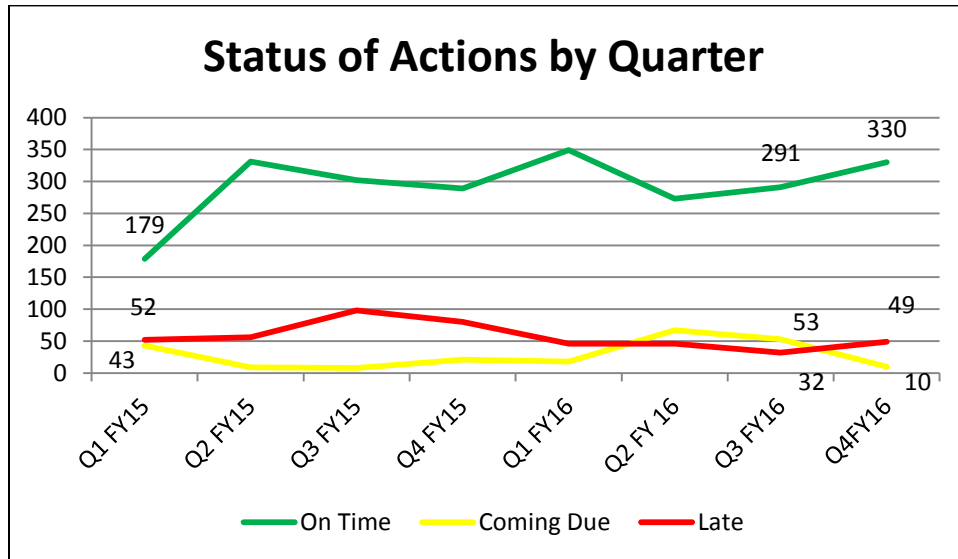


Figure 22: Status of AIS Corrective Actions

Of the 389 open actions in the AIS application 49 (12.6%) are late. The remaining 340 (87.4%) actions are either coming due or are on time. This data is used to calculate the “Status of OPEN Corrective Actions” metric on the Group 750 scorecard.

This metric is green at 87.4% (metric targets: Green: > 80%, Yellow: 60-79%, Red: < 60%).

Table 27 and Figure 23 depict the number of late actions per division and the average number of days past the due date.

Table 27: Number of Late Actions in AIS per Division

	Q2 FY15	Q3 FY15	Q4 FY15	Q1 FY16	Q2 FY16	Q3 FY16	Q4FY16
ESD 1,2,& 3	13	7	7	6	6	10	13
Div 1000	5	6	2	0	1	0	2
Div 2000	0	16	2	0	0	4	2
Div 3000	0	0	0	0	0	1	0
Div 4000	2	24	19	10	17	6	10
Div 5000	24	38	32	23	10	5	2
Div 6000	0	0	0	0	5	1	0
Div 8000	8	6	10	3	2	0	4
Div 9000	4	0	3	1	1	2	11
Div 10000	0	1	5	3	4	3	5
Totals	56	98	80	46	46	32	49

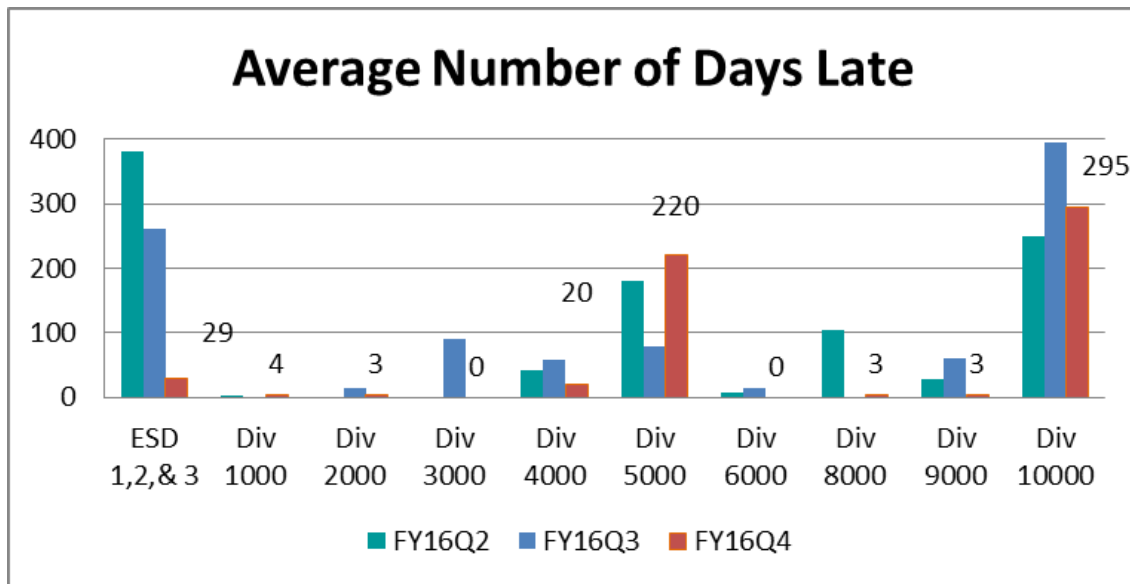


Figure 23: Average Number of Days Late per Division

Age of Open Corrective Action Records

The “Age of Open Corrective Action Records” is intended to provide insight into the overall attention given to managing open corrective action records in AIS. This measure differs from the timeliness measure by evaluating all open corrective action records. The age of records is a good indicator of the overall management and level of concern given to issues documented in AIS. This measure evaluates the age of every corrective action record within AIS.

Table 28, Figure 24, and, Figure 25 illustrate the age of corrective action records documented in AIS.

Table 28: Age of Corrective Action Records

Corrective Action Records	Average Age (Days)	Numbers of Records By Age Group					Total
		Under 6 Months	6-12 Months	1-2 Years	2-3 Years	Over 3 Years*	
With Causal Analysis	800	46	37	66	49	129	327
Without Causal Analysis	400	281	108	240	120	9	758
Totals	506	327	145	306	169	138	1085
Percentage of Open Records		30.1%	13.4%	28.2%	15.6%	12.7%	
	As of 9/29/16			All records over 1 Year Old - 51%			56.5%

* CA without Causal Analysis was not available over 3 years ago.

As of September 29, 2016 the average age of open corrective action records with causal analysis is 800 days. Open records without causal analysis have an average age of 400 days. Both measures indicate that the amount of time that passes between record creation and record closure is considerable.

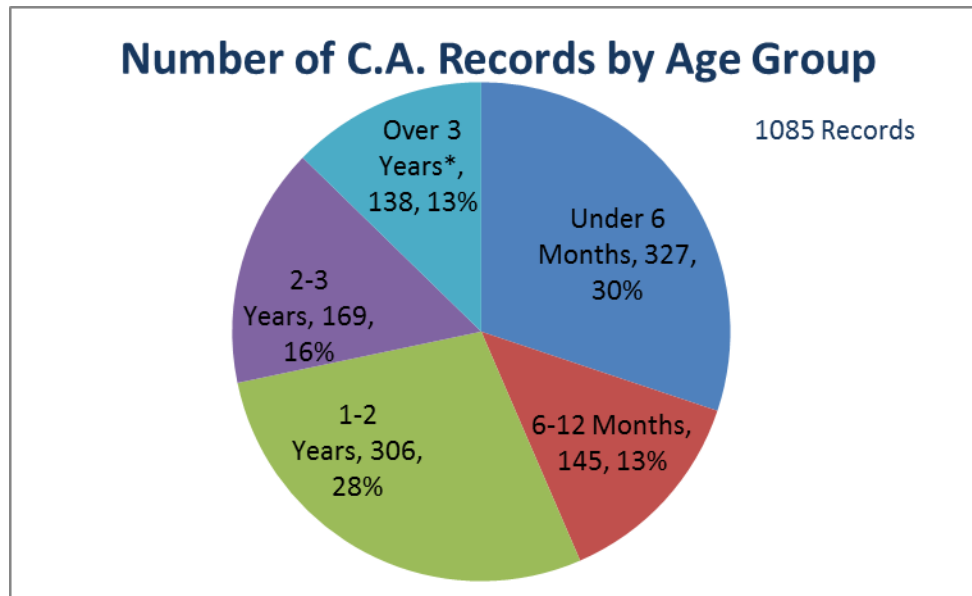


Figure 24: Open Corrective Action Records by Age Group

As of September 29, 2016 there were 1,085 open Corrective Action Records. 613 (57%) are more than one year old and 309(28%) are more than two years old. The number of records over one year old increased from 526 in FY16Q2 to 613 in FY16Q4.

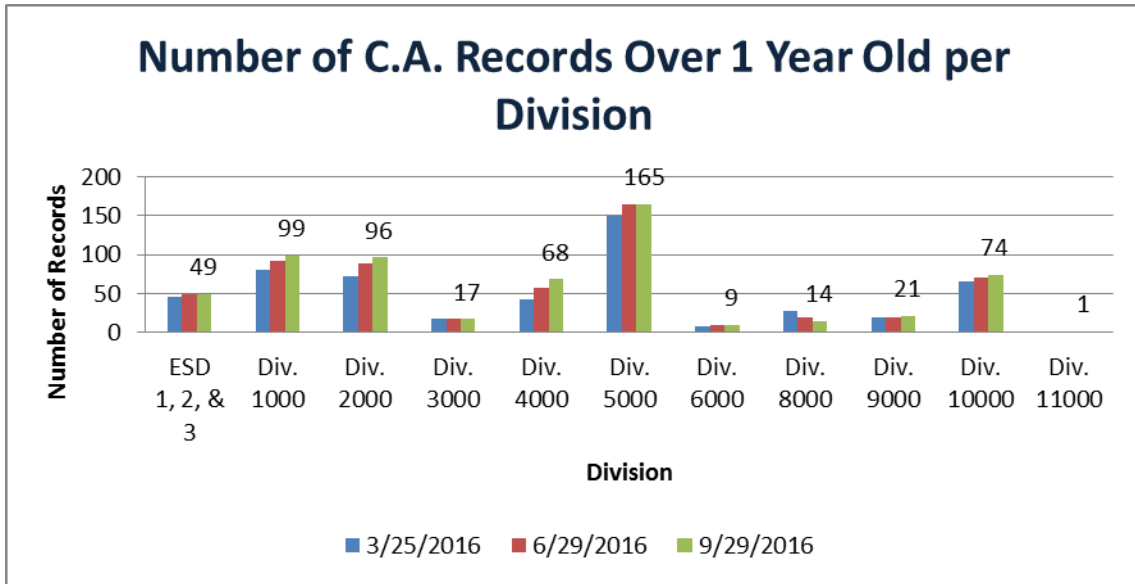


Figure 25: Records Over One Year Old by Division

Figure 26 illustrates the status of corrective action with causal analysis records that are over one year old. 81 of the 244 (33%) records are awaiting cause entry. These records are most likely not being actively managed. The SME will engage the Division Quality Partners to better understand the status of these records.

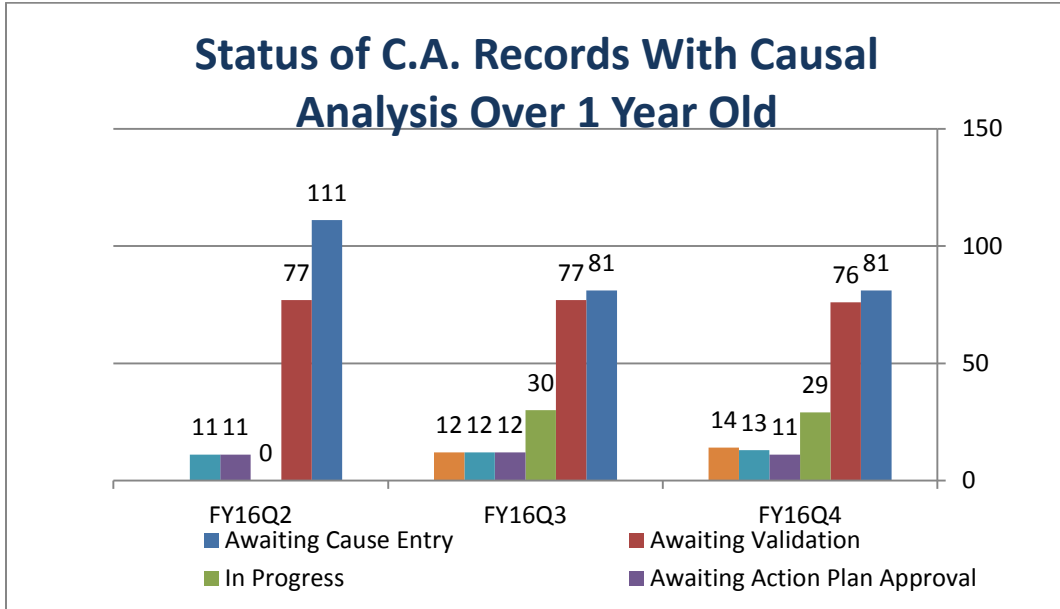


Figure 26: Status of Records with Causal Analysis Records Over One Year Old

Error! Reference source not found. illustrates the status of corrective action without causal analysis records that are over one year old. These records may have been created prior to when the decision to not take action was determined. Further investigation will be required to understand why record closure when causal analysis is not conducted takes more than a year.

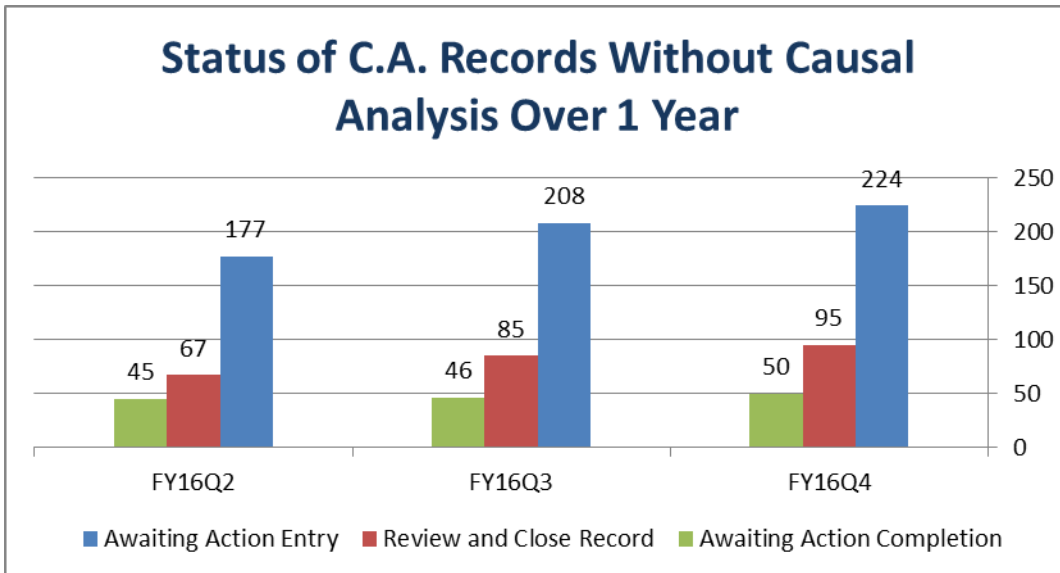


Figure 27: Status of Records without Causal Analysis Over One Year Old

AIS Usage

Figure 28, Figure 29, and Figure 30 illustrate a downward trend in the number of corrective action records created per quarter. Likewise, the number of corrective action records closed per quarter is also declining. The number of corrective action records (both with and without causal analysis) that were either opened or closed during each of the previous eight quarters is declining.

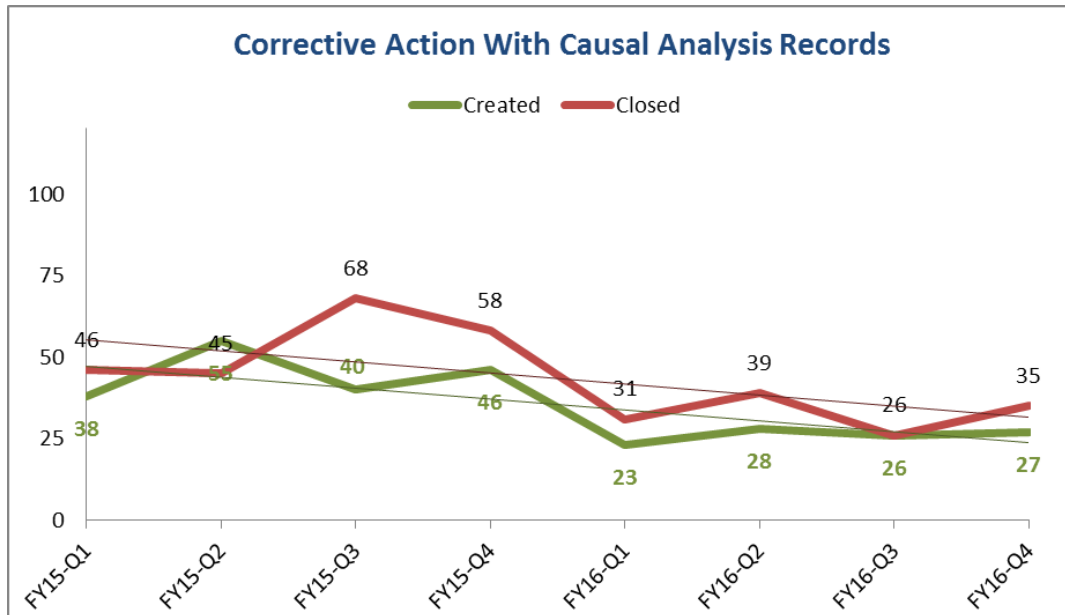


Figure 28: Number of Causal Analysis Records Created Compared to Number of Records Closed

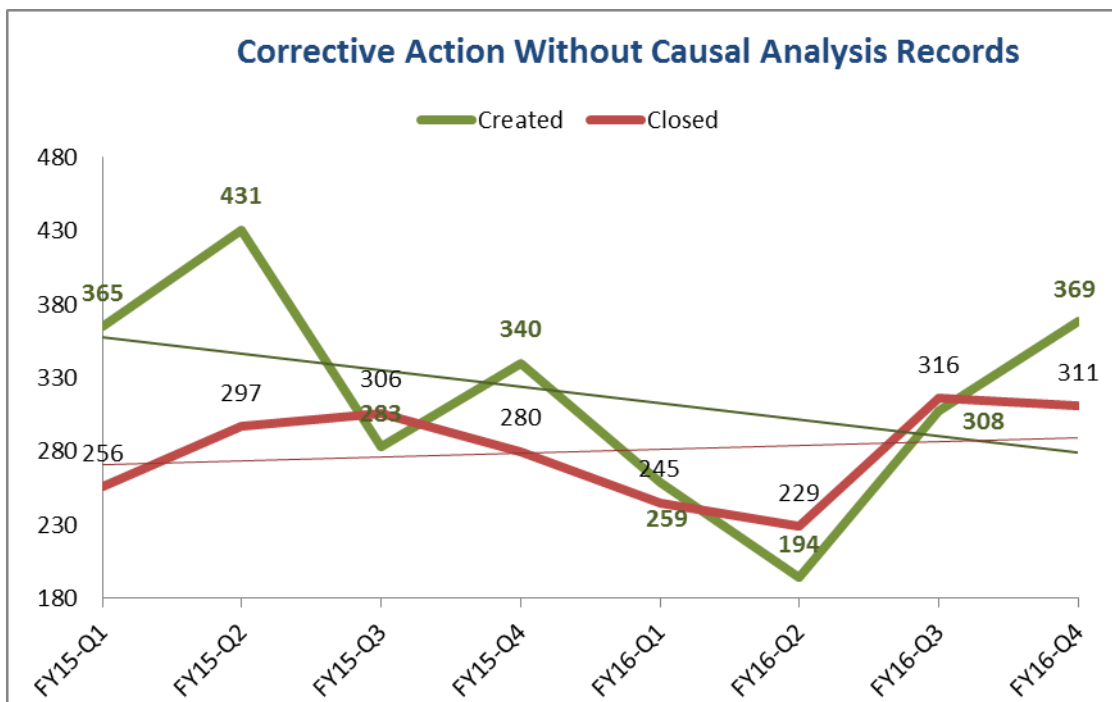


Figure 29: Number of Without Causal Analysis Records Created Compared to Number of Records Closed

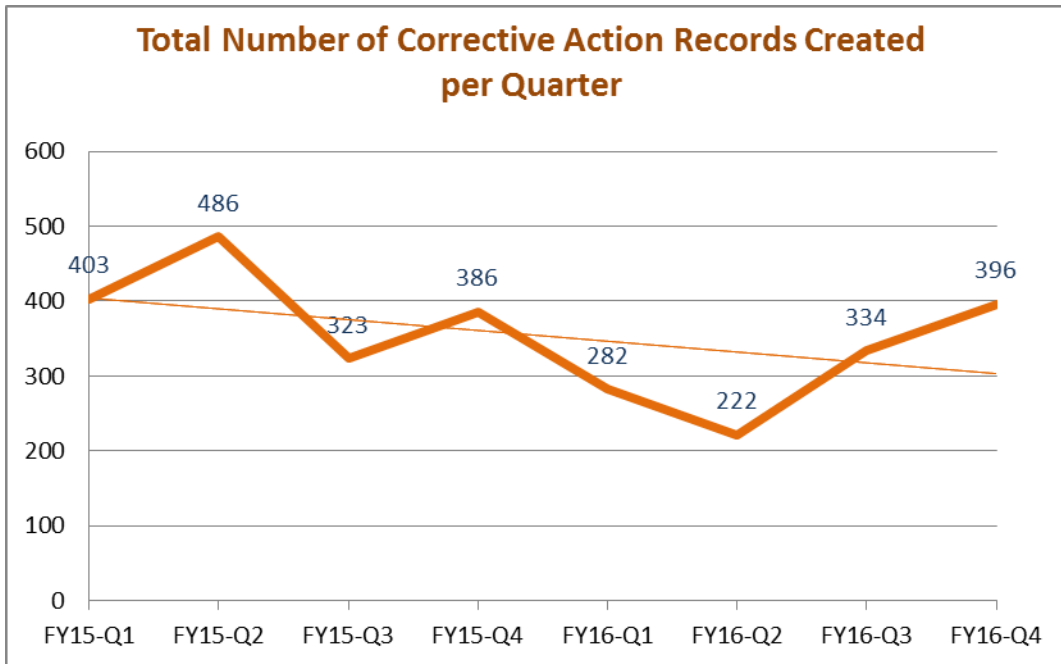


Figure 30: Total Number of Corrective Action Records Created Per Quarter

Causal Analysis Performance

Causal Analysis Performance: The data set for this metric includes a sampling of corrective action records, with causal analysis, closed in the quarter. Seven of the 35 corrective action records with causal analysis records closed during FY16-Q4 were reviewed. In the criteria, each criterion is weighted and ranked on a scale of 1 (low) to 4 (high). Overall score is an average of the weighted individual attributes scores.

The targets for this metric are: Green: 3-4; Yellow: 2.0-2.99; Red <2.0.

Figure 31 shows the trend of the average scores from quarterly reviews of causal analyses. Figure 32 shows the performance trends for three problematic areas of the causal analysis process. The plans and recommended changes to address these weaknesses will soon be ready for review.

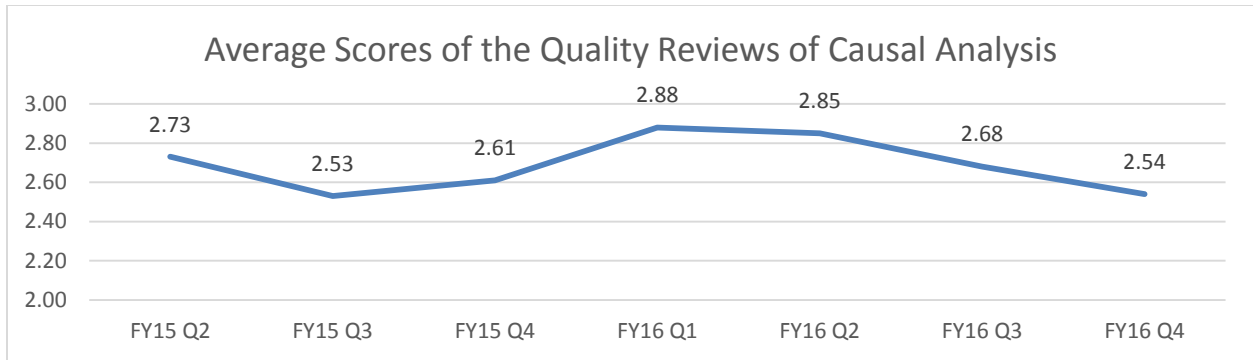


Figure 31: Quality of Causal Analysis Documentation

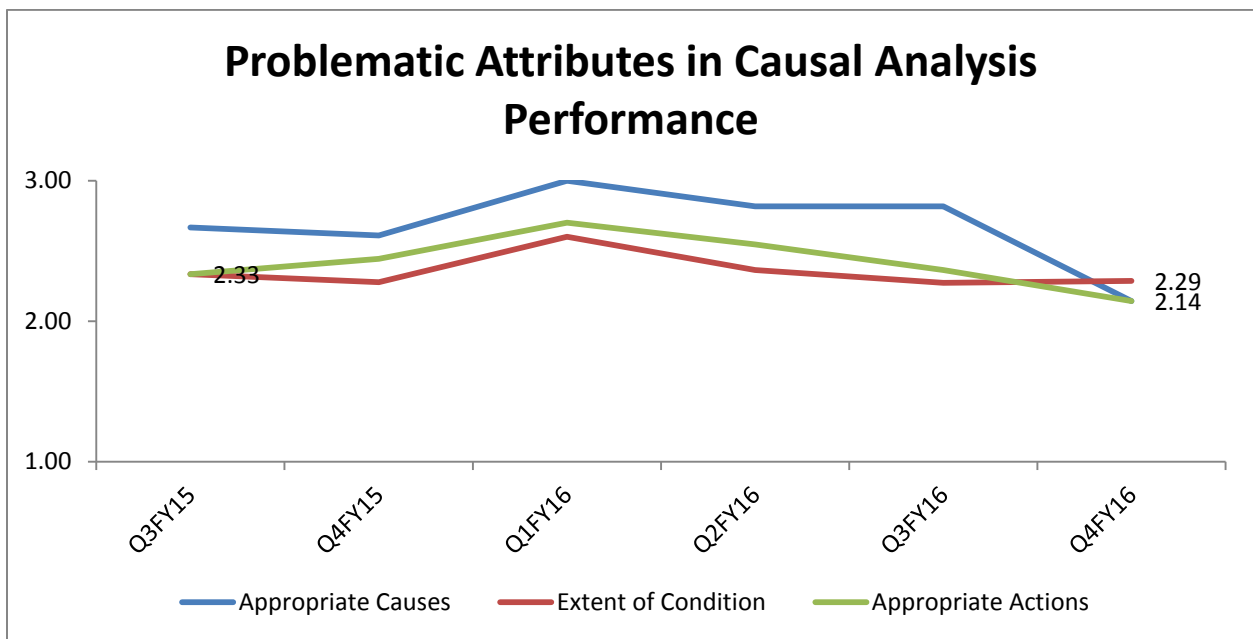


Figure 32: Problematic Attributes of Causal Analysis Performance

Attachment 1: Assessment Quality Review Criteria

Criteria Applied to Quarterly Assessment Quality Reviews

IDENTIFICATION - 10% Weighting

- 1.) Does record reflect a risk basis for the assessment (risks identified either by association, linkage, or verbiage)?
- 2.) Does record reflect an evaluation type that makes sense for the documented activity?

PLAN - 50% Weighting

- 3.) Does record reflect a Lead Assessor?
- 4.) If there are team members identified in the record or in linked documents, are roles/functions identified for each team member (e.g. SME, POC, etc.)?
- 5.) Does record reflect a clear statement of WHAT is being assessed or what's to be learned from the assessment?
- 6.) Does record reflect a clear statement of WHY assessment is being performed?
- 7.) Does record reflect the alignment of the WHAT and WHY?
- 8.) Does record reflect the appropriate Area of Responsibility?
- 9.) Does record reflect WHERE the assessment took place if applicable (i.e. location)?
- 10.) Does record reflect HOW the assessment was to be performed?
- 11.) Does record reflect submission of the Plan to the Sponsoring Manager?
- 12.) Does record reflect a review/acknowledgement of the Plan occurred by the Sponsoring Manager?

CONDUCT - 10% Weighting

- 13.) Does record reflect WHEN the assessment took place (i.e. actual start and completion dates)?
- 14.) Does record reflect the data collection techniques and do those techniques make sense for the assessment?
- 15.) Does record reflect the evidence collected? (E.g. interview lists, list of documents reviewed, what work was observed etc.)

RESULTS - 30% Weighting

- 16.) Does record contain evidence that supports the results? (E.g. what was found? Picture of bad housekeeping, referenced violated requirement, etc.)
- 17.) Do results adequately reflect the activity and are properly categorized? (Do results answer what's trying to be found? Were improvement opportunities identified? Was compliance determined? Were risk controls found to be effective?)
- 18.) Does record reflect submission of the final results to the Sponsoring Manager?
- 19.) Does record reflect a review/acknowledgement of the Final Results by the Sponsoring Manager?

OTHER – (not included in score but useful insight to 750)

- 20.) Does record reflect the completion of all required AIS fields?

Attachment 2: Causal Analysis Quality Review Criteria

Causal Analysis Documentation Quality Criteria Descriptions

Criterion 1: Evaluate complexity and select an appropriate Causal Analyst	
	Analyst is on the list of qualified analysts
1	Analyst is not on the list and no record of required training
2	Analyst is not on the list; record of training exists, but no qualified shadow
3	Analyst is on the list or has been trained and is being shadowed by an analyst on the list
	Not applicable for this criterion
	IF SIMP or ORPS SC1 or 2: Senior analyst is selected for High risk ranked incident

Criterion 2: Team makeup includes responsible management, a Causal Analyst, and persons affected	
1	Just responsible manager and/or causal analyst; or, no documentation of team members
2	Team does not include persons affected/involved
3	Analyst, responsible manager, and affected persons included on the team
4	Team included the members recommended by the guidance linked to CG 100.6.6

Criterion 3: Context of problem is provided (this can be copied over from the evaluation record)	
1	Context of issue not provided
2	Minimal context is provided
3	Context is provided
4	Background/supporting information evidence linked to record

Criterion 4: Issue Statement is readily identifiable and clearly articulated	
1	No issue statement
2	The issue statement is confusing or ambiguous
3	The issue statement clearly states the problem analyzed
4	The issue statement includes a clear and realistic impact of the issue

Criterion 5: Identify Causes	
	Method of analysis is documented
1	Method of analysis is absent
2	Evidence of method of analysis is not linked to the record, but is mentioned
3	Evidence of method of analysis is linked to the record
4	Evidence of more than one analysis method is documented
	Causes are clearly articulated and identified beyond the direct cause level
1	Causes are described only as codes and /or do not go beyond the direct level
2	Causes are described but not concisely and require interpretation
3	Causes are identified beyond the direct level and are clearly articulated
4	Causes are clearly articulated and categorized as contributing and/or root
	Identified causes correspond with the information provided
1	No linkage between background/supporting information and causes identified
2	Weak linkage between background/supporting information
3	Alignment with background/supporting information
4	Narrative of the analysis is included in the description of cause or in linked documentation

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Criterion 6: Extent of Condition	
1	EoC not performed
2	EoC is a broad generalized statement with no indication of investigation
3	Investigation approach and the conclusions reached are articulated
4	Evidence of investigation and actions taken to address the EoC are specifically linked to the record and/or included in the corrective action plan.

Criterion 7: Corrective Actions	
	Actions are stated in a way that it is clear as to what is to be done
1	Action is not actionable
2	Action is vague and unclear
3	Action is stated in a way that it is clear what is to be done
4	Intended outcome of the action (effectiveness criteria) is articulated
	The type of action taken corresponds to the cause(s) identified
1	Actions listed are not linked to causes they are meant to address
2	Action linked to cause does not address cause
3	Actions are appropriate for cause identified
4	Actions are appropriate for cause identified and have clear effectiveness criteria
	Actions are approved and verified
1	Actions are closed before approval
2	Actions are approved but not verified
3	Actions are approved and verified within the tool
4	Evidence of completion is included/linked to the record