# Measurement Information Specification
Process Audit Findings
**Version 2.1**

| Information Need Description | |
|---|---|
| **Information Need** | How well is the project following the organization's defined process and how consistently does the project implement the defined process? |
| **Information Category** | Process Performance |

| Measurable Concept | |
|---|---|
| **Measurable Concept** | Process Compliance |

| Entities and Attributes | |
|---|---|
| **Relevant Entities** | • Process audits performed to verify compliance<br>• Quality assurance records of completed audits vs planned audits |
| **Attributes** | • Audits performed based on process type<br>• Status of completed audits |

| Base Measure Specification | |
|---|---|
| **Base Measures** | 1. Number of process audits performed per period based on process type (audits performed)<br>2. Process audits that were determined compliant (audits compliant) |
| **Measurement Methods** | 1. Count the number of total audit performed based on process type<br>2. Count the number of audits that were determined to be compliant |
| **Type of Method** | Objective |
| **Scale** | Integers from zero to infinity |
| **Type of Scale** | Ratio |
| **Unit of Measurement** | Process audits |

| Derived Measure Specification | |
|---|---|
| **Derived Measure** | Percent of process audits compliant (percent compliant) |
| **Measurement Function** | Divide audits compliant by process audits and multiply by 100. |

<div style="border: 1px solid;">

**Indicator Specification**

| | |
|---|---|
| **Indicator Description and Sample** | Process Audit Findings: Graph the two base measures (audits performed and audits compliant) over time. Also, include a data table with the derived measure (percent complete as of a specific month).<br><br>**Process Audits Findings**<br><br>Number of Audits (y-axis 0 to 80)<br><br>(two lines: Performed (Cum) and Compliant (Cum) plotted Jan–Dec)<br><br>| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |<br>|---|---|---|---|---|---|---|---|---|---|---|---|---|<br>| Performed (Cum) | 4 | 12 | 15 | 20 | 25 | 32 | 41 | 46 | 52 | 60 | 62 | 65 |<br>| Compliant (Cum) | 4 | 11 | 14 | 18 | 23 | 30 | 37 | 41 | 46 | 54 | 56 | 59 |<br>| % Compliant as of | 100.0 | 91.7 | 93.3 | 90.0 | 92.0 | 93.8 | 90.2 | 89.1 | 88.5 | 90.0 | 90.3 | 90.8 | |
| **Analysis Model** | Ideal case is both lines should track close together. The derived measure, percent compliant as of, should stay close to 100%. |
| **Decision Criteria** | Process audit progress results of 90% or less or a percentage that shows a decline in two consecutive periods requires further investigation for root cause. An action plan may be required to correct deficiency. |
| **Indicator Interpretation** | The indicator chart for Process Audit Findings tells the SEPG, quality manager, or any other group or individuals that process audits were compliant (>90%) from January through July. Starting in August, there were two consecutive months of <90% for the year-to-date audits completed. This number, which is under the minimum threshold of 90%, should result in investigation and corrective action plan to improve process audit compliance. |

</div>

<br>

<div style="border: 1px solid;">

**Data Collection Procedure (for each Base Measure)**
*Complete this section for each base measure listed on the previous page.*

| | |
|---|---|
| **Frequency of Data Collection** | 1. Monthly, identified in the schedule of performed audits.<br>2. Monthly, but if negative trends continue for two or more months, frequency of audits could increase until compliance percentage is equal to or greater than minimal threshold of 90%. |
| **Responsible Individual** | Quality assurance |
| **Phase or Activity in which Collected** | All phases |
| **Source of Data for Analysis** | 1. MS Project (planning data)<br>2. MS Access for collection, storage, and presentation of process audits (actual data) |
| **Tools Used in Data Collection** | 1. MS Project for planning audits<br>2. MS Access |

</div>

| Verification and Validation | 1. Review quality assurance monthly schedule of activities for performed audits. 2. Review Software Quality Program Plan (or equivalent) for performed process audits. 3. Review audit results for each month, and conduct analysis of any non-compliant audits. |
|---|---|
| Repository for Collected Data | 1. PSM Insight 2. MS Access database for storage of data |

| Data Analysis Procedure (for each Indicator) | |
|---|---|
| Frequency of Data Reporting | Monthly |
| Responsible Individual | Quality assurance |
| Phase or Activity in which Analyzed | All phases |
| Source of Data for Analysis | PSM Insight |
| Tools Used in Analysis | Trend lines are used to determine negative trends |
| Review, Report, or User | 1. Reported at biweekly software status meetings to project members 2. Reported at SEPG monthly meetings to process improvement staff 3. Reported at monthly quality assurance status meetings to senior leadership |

| Additional Information | |
|---|---|
| Additional Analysis Guidance | When negative trends occur, analyze the specific process. Inform the SEPG (or equivalent group) of the process deficiency. Generate a Corrective Action Report. The report should include a short- and long-term corrective action plan to prevent reoccurrence. Ensure all non-compliant audits are tracked to closure within the agreed timeframe as identified in the Corrective Action Report. It may be necessary to determine how this deficiency will impact cost, schedule, and technical performance. <br><br> If the deficient area is considered to be high risk, any audits scheduled that focus on this area may need to be updated. Follow-up audits may be necessary to ensure corrective action plans have been developed and are being implemented to addresses the deficiency. <br><br> If there are any reoccurring trends in specific process areas, it may be necessary to perform a review of the organization's policy and training program for these respective areas. Identify any adjustments to the appropriate group as necessary. <br><br> If follow-up audits continue to show little or no improvement, it may be necessary to elevate to senior management for resolution. |

| | |
|---|---|
| **Implementation Considerations** | Process audits are normally performed during the entire project lifecycle, because these measures provide an indication of the project's compliance to the organization's defined process. Process audits should be performed based on the development lifecycle, and this plan should be annotated in some type of scheduling tool. The audit schedule could be a subset of the Quality Program Plan (or equivalent). The quality organization itself should be periodically audited to ensure compliance with the schedule. Any deviation from the quality organization's plan should be annotated appropriately.<br><br>Reporting process audit results should be monthly, at a minimum, unless an excessive number of non-compliant audits are encountered during the reporting period. An excessive number of non-compliant audits could cause the quality organization to revise the schedule to focus on non-compliant area(s) and to increase frequency.<br><br>Process audit results and corrective actions should be presented to the organizations effected. Additionally, senior management should be presented with the complete picture of all audits. The primary reason for presenting this information to senior management is to provide awareness of an insight into systems and software activities at an appropriate level of abstraction and in a timely manner.<br><br>Audit results could be portrayed as partially compliant, where specific subtasks related to a specific task were satisfactory. This type of reporting allows credit for satisfying specific areas and identifying other areas that require further investigation. |