

Performance Measures - Objectives

Scope

Engineering Division plans and implements the monitoring, measurement, analysis and improvement processes needed:

- a) To demonstrate conformity of the product,
- b) To ensure conformity of the quality management system, and
- c) To continually improve the effectiveness of the quality management system.

The performance measures to obtain the specified objectives are listed below.

Distribution

Assistant Chief of Engineering Division

Chief of Design Branch

Chief of Engineering Division

Chief of Engineering Support Branch

Chief of Geotechnical & Environmental Engineering Branch

EQS Management Representative

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Ownership

The Chief of Engineering Division [[Thomas.E.Trainer@usace.army.mil?subject=REFA02L0-Performance Measures - Objectives](mailto:Thomas.E.Trainer@usace.army.mil?subject=REFA02L0-Performance%20Measures%20-%20Objectives)] is responsible for ensuring that this document is necessary and that it reflects actual practice.

Metric Name: Scope of Work/Project

Purpose: To assure that customer requirements are properly developed, documented, and understood before a final agreement is reached on the service(s) and/or product(s) to be provided.

What are we measuring: Each section or resource provider will obtain a Scope of Work (SOW) for all projects with funded labor charge codes requiring more than \$5,000 per task. Measurement is (Number of SOW/Number of projects) as a percentage. Measurement shall be taken on a quarterly basis and data shall be reported at the subsequent Management Review Meeting.

This metric rates the effectiveness of ED efforts to comply with the requirements of the PMBP *Project Scope and Customer Requirements Definition - PROC2010* [http://bp.usace.army.mil/robo/projects/pmbp_manual/PMBP_Manual/proc2010.htm] and our EQS procedure *Contract Review [PROP01L0]*, in accordance with the ISO 9001:2000 standard.

Elements of the ISO 9001:2000 are as follows:

- 5.2 Customer focus
- 7.2.1 Determination of requirements related to the product
- 7.2.2 Review of requirements related to the product
- 7.2.3 Customer communication

Goal: The acceptable goal for SOW/Project metric is 90%. The goal to also show acceptable continuous improvement on SOW/Project metric is an improvement of at least half of the differential between the current percentage of SOW/project and 90%.

$$\text{Improvement goal} = 50\% \cong (90\% - \text{current } \%) / 2$$

When SOW/Project metric is over 90%, the improvement goal will be to maintain a positive change.

Branch Chiefs will evaluate and report the reasons for a section failing to achieve the improvement goal at the next Management Review Meeting. Branch Chiefs will counsel the Section Chief to develop a corrective action plan when failing the improvement goals two consecutive times. Branch Chiefs will report the corrective action plan for a section failing to achieve the improvement goal at the next Management Review Meeting.

Metric Name: Capturing Lessons Learned

Purpose: To assure Lessons Learned (LL) are being submitted in our design process to improve project delivery and continuous improvements to our EQS.

What we are measuring: An After-Action Review (AAR) is required for each project phase. If properly facilitated, the AAR process will generate LL and opportunities for improvement. The Management Team Representative will cull the Lessons Learned database each quarter and determine the ratio of accepted LL v. submitted LL.

This metric rates the effectiveness of ED efforts to comply with our EQS procedure *Capturing Lessons Learned* [[PROA02L0](#)] in accordance with the ISO 9001:2000 standard.

Elements of the ISO 9001:2000 are as follows:

- 0.2 Process Approach
- 4.1 Quality management system - General requirements
- 5.1 Management commitment
- 5.4.1 Quality objectives
- 5.5.2 Management representative
- 5.6 Management Review
- 7.3.4 Design and development review
- 8.4 Analysis of Data
- 8.5.1 Continual improvement
- 8.5.2 Corrective action
- 8.5.3 Preventative action

Goal: The acceptable goal for ratio of accepted LL v. submitted LL shall be 90%. The goal to also show acceptable continuous improvement on accepted LL v. submitted LL metric is an improvement of at least half of the differential between the current percentage and 90%.

$$\text{Improvement goal} = 50\% \cong (90\% - \text{current\%})/2$$

When the accepted LL v. submitted LL metric is over 90% the improvement goal will be to maintain a positive change.

Metric Name: Processing Lessons Learned

Purpose: To assure Lessons Learned are being processed in a timely manner for use in our design process to improve project delivery.

What we are measuring: The time required to process the LL through the system should be as short as reasonable. The sooner a LL is shared with the PDT member, the better the project design and/or organization will be. The Management Team Representative will cull the Lessons Learned database each quarter and determine the time required to process LL.

This metric rates the effectiveness of ED efforts to comply with our EQS procedure *Processing Lessons Learned* [[PROA03L0](#)] in accordance with the ISO 9001:2000 standard.

Elements of the ISO 9001:2000 are as follows:

- 0.2 Process Approach
- 4.1 Quality management system - General requirements
- 5.1 Management commitment
- 5.4.1 Quality objectives
- 5.5.2 Management representative
- 5.6 Management Review
- 7.3.4 Design and development review
- 8.4 Analysis of Data
- 8.5.1 Continual improvement
- 8.5.2 Corrective action
- 8.5.3 Preventative action

Goal: The acceptable goal for processing LL for public use would be 90% of the LL being published within 30 days. The goal to also show acceptable continuous improvement on published LL metric is an improvement of at least half of the differential between the current percentage and 90%.

$$\text{Improvement goal} = 50\% \leq (90\% - \text{current\%})/2$$

When processing the LL metric is over 90%, the improvement goal will be to maintain a positive change.

Metric Name: Integrating Lessons Learned

Purpose: To assure Lessons Learned are being used in our design process to improve project delivery.

What we are measuring: Each project shall have a Lessons Learned List for each of the disciplines in the Design Analysis (DA). A statement will be provided in cases where no LL was found to be appropriate. The statement will state that the LL database was searched using appropriate keywords for the discipline, but no LL was found. The QC certification process requires the resource providers to sign off that the LL database has been scanned and a list or statement is included in the DA to that effect.

This metric rates the effectiveness of ED efforts to comply with our EQS procedure Integrating Lessons Learned [PROA04L0] in accordance with the ISO 9001:2000 standard.

Elements of the ISO 9001:2000 are as follows:

- 0.2 Process Approach
- 4.1 Quality management system - General requirements
- 5.1 Management commitment
- 5.4.1 Quality objectives
- 5.5.2 Management representative
- 5.6 Management Review
- 7.3.4 Design and development review
- 8.4 Analysis of Data
- 8.5.1 Continual improvement
- 8.5.2 Corrective action
- 8.5.3 Preventative action

Goal: The acceptable goal for integrating LL in project design would be that all projects should have a Lessons Learned List for each of the disciplines included in the Design Analysis (DA). The goal to also show acceptable continuous improvement on integrating the LL metric is an improvement of at least half of the differential between the current percentage and 100%.

$$\text{Improvement goal} = 50\% \leq (100\% - \text{current\%})/2$$

Metric Name: Systemic Lessons Learned

Purpose: To assure continuous improvements to our EQS.

What we are measuring: The Management Team Representative will cull the Lessons Learned database for systemic process issues each quarter. The Management Team Representative will send out an email asking who has experienced a similar problem or issue. Part of the solicited response will be the project, location and number of occurrences. If the number of affirmative responses is large, then it may indicate a systemic problem. If only one or two are affirmative responses, then it may be a unique case, or just the first occurrence. The metric will be the percentage of the number of systemic LL divided by the number of LL submitted each quarter.

This metric measures the effectiveness of the ED Management Team to comply with the requirements of the ISO 9001:2000 standard.

Elements of the ISO 9001:2000 are as follows:

- 0.2 Process Approach
- 4.1 Quality management system - General requirements
- 5.1 Management commitment
- 5.4.1 Quality objectives
- 5.5.2 Management representative
- 5.6 Management Review
- 8.4 Analysis of Data
- 8.5.1 Continual improvement
- 8.5.2 Corrective action
- 8.5.3 Preventative action

Goal: The acceptable continuous improvement goal for Systemic Lessons Learned metric to reduce the percentage of systemic LL to all LL by at least half of the current percentage.

$$\text{Improvement goal} \leq (\text{current\%})/2$$

When the systemic LL metric is less than 5%, the improvement goal will be to maintain a positive change.

Metric Name: Corrective/Preventive Action Implementation

Purpose: To assure continuous improvements to our EQS.

What we are measuring: The Management Team shall develop corrective/preventive action plans and task the appropriate branch chiefs for plan implementation. Suspense for completion of corrective/preventive action implementation will be sixty days from assignment. The metric will be the percentage of corrective/preventive actions completed against the number tasked within the sixty-day period.

This metric measures the effectiveness of the ED Management Team to comply with the requirements of the ISO 9001:2000 standard.

Elements of the ISO 9001:2000 are as follows:

- 0.2 Process Approach
- 4.1 Quality management system - General requirements
- 5.1 Management commitment
- 5.4.1 Quality objectives
- 5.5.2 Management representative
- 5.6 Management Review
- 8.4 Analysis of Data
- 8.5.1 Continual improvement
- 8.5.2 Corrective action
- 8.5.3 Preventative action

Goal: The acceptable goal for the Corrective/Preventive Action Implementation metric is to complete 90% of the corrective/preventive actions tasked within the sixty-day period. An additional goal is to measure continuous improvement by reducing the rate of issue recurrence after implementation of the corrective/preventive action compared to the rate of occurrence before implementation.

Metric Name: Average Age of Lessons Learned

Purpose: To assure continuous improvements to our EQS.

What we are measuring: The average age of the LL in the system. The time a LL resides in the system should be as short as possible. The sooner a LL is integrated into the criteria or procedures, the better the organization will be. The Criteria Management Unit (CMU) Leader will review the LL database for relevant LL whenever new criteria is published. The CMU Leader will notify the Management Team Representative when a LL is found that may be rescinded or modified. Management Team Representative will also review the Lessons Learned database quarterly and determine the average age of the LL.

This metric rates the effectiveness of ED efforts to comply with our EQS procedure Processing Lessons Learned [PROA03L0] in accordance with the ISO 9001:2000 standard.

Elements of the ISO 9001:2000 are as follows:

- 0.2 Process Approach
- 4.1 Quality management system - General requirements
- 5.1 Management commitment
- 5.4.1 Quality objectives
- 5.5.2 Management representative
- 5.6 Management Review
- 8.4 Analysis of Data
- 8.5.1 Continual improvement
- 8.5.2 Corrective action
- 8.5.3 Preventative action

Goal: The acceptable goal for the average age of LL in the system is 90% of the LL are less than one year old. The goal to also show acceptable continuous improvement on average age of LL metric is an improvement of at least half of the differential between the current percentage and 90%.

$$\text{Improvement goal} = 50\% \leq (90\% - \text{current\%})/2$$

When the average age of the LL metric is over 90%, the improvement goal will be to maintain a positive change.