TQM

BALDWIN ENERGY

TOTAL QUALITY MANAGEMENT- Overview

Quality Policy Statement: Quality at Baldwin means understanding and fully meeting our customer's requirements through innovative and efficient solutions.

quality is our commitment

Quality

Total Quality Management

To provide the highest customer satisfaction, Baldwin has adapted standards established by the United States Navy for TQM. The following TQM principles taken from the *Navy Personnel and Research Center* reveal fundamental guidelines:

- "Quality is defined by customers' requirements."
  - Baldwin's approach: Listen, review and fully understand the customer's requirements. Understand the projects purpose and environment in order to provide valuable recommendations and feedback.
- "Top management has direct responsibility for quality improvement."
  - Baldwin's approach: Empower QC Managers and provide direct line to CEO.
- "Increased quality comes from systematic analysis and improvement of work processes."
  - Baldwin's approach: Work with customer to form efficient and effective monitoring tools. Continuously seek to improve methods with 360 degree feedback.
- "Quality improvement is a continuous effort and conducted throughout the organization."
  - Baldwin's Approach: Recognize individual efforts to improve quality and reinforce each improvements impact on the team, organization and mission.

Roles & Responsibilities

Total Quality Management is a team approach under the direction of the QC Manager. Baldwin's QC Managers, Jeff Berry and Jean Cormier, are QC Certified by the Army Core of Engineers . The QC Manager reports directly to the Project Manager.

It is the QC Manager's direct responsibility to understand the customer's requirements and to ensure an appropriate method for measuring performance . The TQM effort is the responsibility of everyone at Baldwin.

The QC Manager provides continuous feedback to all vested parties. The QC Manager also continually monitors customer satisfaction based on current performance and leads all changes towards continuous improvement.

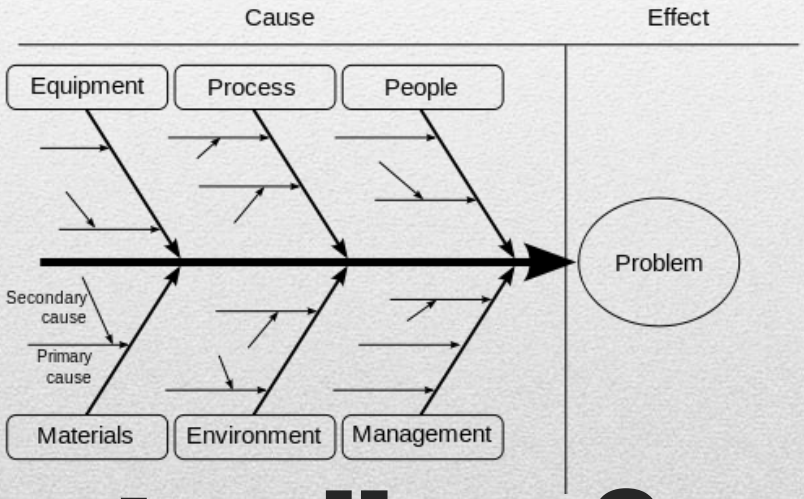
TQM Process

Baldwin's **Seven Steps** to Total Quality Management:

1. Understand (Cause & Effect)
2. Train
3. Tool
4. Report
5. Monitor
6. Inspect
7. Review

Understanding- Cause & Effect

Baldwin's TQM Program begins by understanding the customer's requirements and the environmental conditions where services will be performed. These requirements include policies, legislation, regulations, rules and standards that dictate methods. Understanding these requirements helps to establish a cause and effect relationship for each activity and is crucial in establishing standards and monitoring defect prevention.



Training

Baldwin's personnel receive general construction training as well as specialized training unique to their particular task. Baldwin works in conjunction with the National Commission for the Certification of Crane Operators (NCCCO) to provide training and certifications for workers in crane related activities.

Baldwin's union affiliation further ensures each worker is skilled in their particular trade and has completed the appropriate apprenticeship programs. Each worker is required to maintain current licenses and certifications as part of the union programs.

Tooling

Having the proper equipment for each task is an essential part of maintaining the TQM process at Baldwin. Each tool must be suited to the particular task and capable of performing according to manufacturer's specifications. As a result each tool must be inspected and tested periodically. All tensioning or torqueing tools must be in premium working condition and be properly calibrated. All hoisting equipment must be inspected daily and cranes must have daily, monthly and annual inspections according to OSHA regulations.

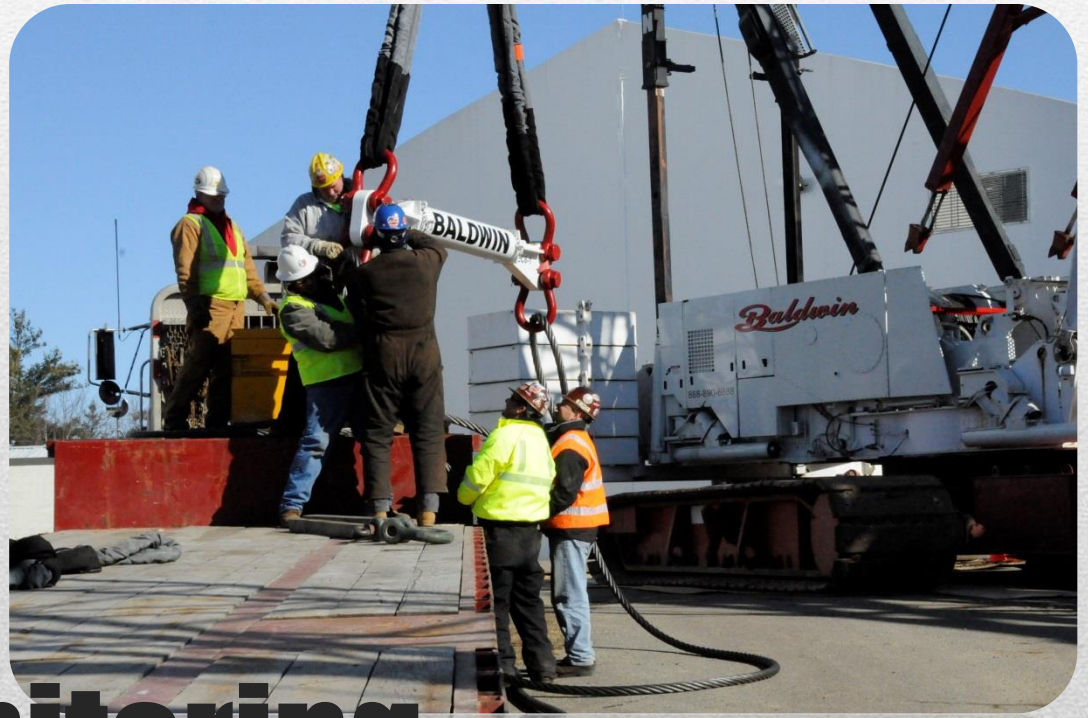
Reporting

Reporting and documentation methods will be predetermined in order to meet the customer and Baldwin's quality control standards. The reports will be used to document which particular work was performed and that quality standards were met. The TQM Manager will ensure that the paperwork is completed thoroughly and on a timely basis.

Job reports, including job write-ups and inspection reports are kept in Baldwin's office for a period of seven (7) years. Copies are also supplied to the customer on an ongoing basis throughout the project.

Monitoring

Monitoring is performed daily by Team Leaders and the TQM Manager. Team Leaders will be assigned to larger work groups to ensure continual monitoring. Monitoring is conducted to confirm that daily work conditions and practices are in conformance with quality standards.



Inspecting

The inspection process is broken into two distinct steps; task inspections and a final inspection. Each has the following objectives:

Task Inspection: Team Leaders inspect the completed assignment. Routinely, TQM managers audit these inspections to ensure proper standards are being used. Task inspections are intended to inspect quality standards of sub-components.

Final Inspection: Led by the TQM Manager, the QC Team and Project Manager will complete a final review of the completed assembly. Findings will be documented and reviewed with the customer to align QC standards with total performance.

Reviewing

The review process is a critical component of Baldwin's TQM Program. To continuously improve the program, Baldwin and the customer must go back to the initial program phase (understanding) and identify any deficiencies that surfaced. Reviewing the deficiencies and the corrections will help safeguard effective practices while revealing opportunities to improve.

Conducting the review process in each of the seven TQM areas will strengthen the program for future projects, while revealing QC targets in the maintenance process. For example, if it was discovered that torqueing particular bolts was challenging because of confined space issues, new practices or tooling can be used throughout the maintenance procedure.

The review process is designed to affirm the customer's satisfaction level and seek ways of improving Baldwin's TQM process. In doing so, Baldwin can continue to improve while the customer can maximize its component performance and the useful life of its asset.

Satisfaction