

Hayward Tyler

PUMP COMPANY

IMPROVEMENTS TO HAYWARD TYLER PUMP COMPANY'S
QUALITY ASSURANCE PROGRAM

FEBRUARY, 1982

Improvements are now in process, or already completed, to the Quality Assurance Program at Hayward Tyler Pump Company, Burlington, Vermont. These improvements, set forth in the following pages, may be broadly categorized as Improvements in Training and Indoctrination, Improvements in Documentation of Operations, Improvements in Process Control, and Improvements in Welding and Material Control.

IMPROVEMENTS IN TRAINING AND INDOCTRINATION

1. Top management will communicate to all employees the Company's commitment to follow effective QA practices and the vital role that the QA program plays in the Company's operations.
2. Prepare and implement a new training schedule, with training to be in accordance with QA Manual revisions where applicable. Give special emphasis to overdue training.
3. Issue specific instructions and give training to employees as follows:
 - a. Clarify sign-off responsibility, with emphasis on responsibility when operations are performed by two or more operators;
 - b. Define allowable non-sequential operations;
 - c. Emphasize that no work is to be done without route sheets for those operations requiring a route sheet;
 - d. Emphasize that no hold points are to be passed; and
 - e. Emphasize to inspectors (i) notation of hold points on route sheets in process when an NCR is written; and (ii) notation of hold points and NCR number on subsequent route sheets for the same item until NCR is closed out.
4. Collect personnel training records, including personnel history data for all personnel with quality responsibilities as stated in the QA Manual.
5. Correct NDE training records as applicable.
6. Train and qualify additional internal auditors from areas outside the QA organization to increase the internal auditing coverage and to provide independent review.
7. Update that portion of the internal auditor's qualification record which NRC found missing to verify that his record is now complete and current.

IMPROVEMENTS IN DOCUMENTATION OF OPERATIONS

1. Review all manufacturing operations to determine whether any additional processes should be covered by written procedures; if any are found, prepare the necessary procedures and obtain approval.
2. Write and qualify procedures for:
 - a. Use of adhesives in making O-rings from O-ring cord; and
 - b. Shaft straightening.
3. Revise QA Manual to:
 - a. Define present organization;
 - b. Detail design control changes to improve systems;
 - c. Redefine route sheet application and procedure;
 - d. Clarify and correct typographical errors in calibration, NCR, documentation, auditing and training sections; and
 - e. Identify non-sequential operations.
4. Refile records used and referenced during recent audits and cross-reference backup documentation that provides information found missing.
5. In order to ensure QC coverage at all times, provide that a QC Inspector be on duty whenever any Code work is being processed on the shop floor.
6. In order to obtain more efficient and complete coverage of QA activities by the Authorized Nuclear Inspectors, develop and agree upon a detailed program schedule.

IMPROVEMENTS IN PROCESS CONTROL

1. Write route sheets with more detail for operations, particularly assembly. Provide standard route sheets for repair procedures.
2. Investigate as-built drawing system and implement improvements as necessary.
3. Give calibration vendors specific instructions for calibration of gauges and special tools, including reference to "as-found" conditions and tolerances maintained.
4. Recalibrate dead weight tester using new instructions described (3) above.
5. Recalibrate torque wrench to new instructions. Check to determine on which contracts the wrench was used and correct torque if necessary.
6. Review approved nuclear vendors list.

WELDING AND MATERIAL CONTROL

1. Determine if any customers have received weld material CMTR with incorrect lot number and send replacement CMTR if necessary.
2. Provide locked storage for Quality Level 1 weld electrode opened for storage in ovens. Provide locks for general material stores area.
3. Assess record storage facilities to ensure adequate storage is available.
4. Review all ASME Code Section IX Welding Procedure Specifications and Procedure Qualification Records for adequacy and conformance to Code requirements. Review to be done with A.N.I. input.
5. Update welder qualification record to meet strict wording of QA Manual regarding three-month qualification time period. Remove out-of-date qualification records from Lead Welder's file.
6. Revise welding procedure to ensure correct preheat range.
7. Prepare a written procedure for calibration of welding machines.