

**Figure: 16 TAC <\*>65.615(9)**

**Exhibit 9**

**1.0 Basic Elements of a Written Quality Control System**

**1.1** This outline sets the requirements of the Boiler Section for a written quality control system for repairers of ASME safety and safety relief valves.

**1.2 Control Copy**

A controlled copy of the written quality control system shall be submitted to the inspector. Revisions shall also be submitted for acceptance prior to being implemented.

**1.3 Sample Forms**

Forms used in the quality control system shall be included in the manual with a written description. Forms exhibited should be marked SAMPLE and completed in a manner typical of actual valve repair procedures.

**1.4 Individuality Important**

It is extremely important that the manual describe and the operation implement the system of each individual firm while meeting the requirements of the owner/operator certification program.

**1.5 Quality Control Manual Requirements**

It is essential that each valve repair organization develop its own quality control system which meets the requirements of each organization. Some of these requirements are, but not limited to:

**1.5.1 Title Page**

The title page shall include the name and address of the company to which the certificate of authorization is to be issued.

**1.5.2 Revision Log**

A revision log is required to assure revision control of the quality control manual. The log should contain sufficient space for date, description and section of revision, company approval, and chief inspector or authorized inspector acceptance.

**1.5.3 Contents Page**

The contents page should list and reference, by paragraph and page number, the subjects and exhibits contained therein.

#### **1.5.4 Statement of Authority and Responsibility**

A statement of authority and responsibility shall appear on company letterhead, dated and signed by an officer of the company verifying that only ASME Code stamped safety and safety relief valves will be repaired and returned to a condition equivalent to the standards for new valves. To ensure this is attained, the requirements of the written quality control system shall include as a minimum:

- 1.5.4.1** the title of the individual responsible to ensure that the quality control system is followed and has the authority and organizational freedom to effect the responsibility;
- 1.5.4.2** if there is disagreement in the implementation of the written quality control system, the matter is to be referred to a higher authority in the company for resolution; and
- 1.5.4.3** the title of the individual authorized to approve revisions to the written quality control system and the method by which such revisions are to be submitted to the authorized inspector for acceptance before implementation.

#### **1.5.5 Organization Chart**

The organization chart shall include all departments or divisions within the company that perform functions affecting the quality of the valve and show the relationship.

#### **1.5.6 Scope of Work**

The scope of work section should clearly indicate the scope and type of valve repairs the organization is capable of and intends to carry out, and should include the types and sizes of valves which can be repaired. In addition, the testing media (steam, air, water, etc.) and pressure ranges should be included. The scope can be limited by engineering, machine tools, welding processes, heat treatment facilities, testing facilities, nondestructive examination (NDE) techniques, or qualified personnel.

#### **1.5.7 Drawings and Specification Control**

The drawings and specification control system shall provide procedures assuring that applicable drawings, specifications, and instructions required are used for valve repair, inspection, and testing.

Specific reference should be made to the materials used for the repair of various valve parts (PG-73.2.3, Section I and UG-136(b)(3), Section VIII Division 1 of the ASME Code).

Mechanical requirements shall comply with the ASME Code. See applicable Code section.

#### **1.5.8 Material and Part Control**

The material and part control section shall describe purchasing of parts from the valve manufacturer, if applicable, and of material with request for mill test certification as required. It shall also describe receiving, storage, and issuing.

**1.5.8.1** State the title of the individual responsible for the purchasing of all material.

**1.5.8.2** State the title of the individual responsible for certification and other records as required.

**1.5.8.3** All incoming material and parts shall be checked for conformance with the purchase order, and where applicable, the material specifications or drawings. Indicate how material or part is identified and how identity is maintained by the quality control system.

**1.5.8.4** All critical parts shall be fabricated to the valve manufacturer's specifications. Critical parts are defined as any part which may affect the flow passage, capacity, or valve function.

**1.5.8.5** When the original manufacturer's nameplate is missing or illegible, or when valve parts are no longer available from the manufacturer, a system will be in place to provide positive valve identification or replacement.

#### **1.5.9 Repair and Inspection Program**

The repair and inspection program section shall include reference to a document (such as a report, traveler, or check list) which outlines the specific repair and inspection procedures used in the repair of safety and safety relief valves. Provisions shall be made to retain this document for a period of at least five (5) years as a part of quality control traceability documents.

**1.5.9.1** Each valve or group of valves shall be accompanied by the document referred to above for processing through the plant.

**1.5.9.2** The document referred to above should include material check, reference to items such as the welding procedures specifications (WPS), fitup, NDE technique, heat treatment, and pressure test methods to be used. There should be a space for "sign-offs" at each operation to verify that each step has been properly performed.

**1.5.9.3** The system shall include a method of controlling the repair or replacement of critical valve parts. The method of identifying each spring shall be indicated.

#### **1.5.10** Welding, NDE, and Heat Treatment

The quality control manual is to indicate the title of the person(s) responsible for the development and approval of the welding procedure specifications and their qualifications and the qualifications of welders and welding operators. It is essential that only welding procedure specifications and welders or welding operators qualified to the requirements of the ASME Boiler and Pressure Vessel Code, Section IX, be used in the valve repair. Similarly, NDE and heat treatment techniques must be covered in the quality control manual. This section should also include outside contracting for services and qualifications.

#### **1.5.11** Valve Testing and Setting

The system shall include provisions that every valve shall be tested, set, and all external adjustments sealed according to the requirements of the applicable ASME Code section.

The seal shall identify the repair organization. Abbreviations or initials shall be permitted, provided such identification is acceptable to the authorized inspector.

#### **1.5.12** Valve Repair Tags

An effective system shall be established to ensure proper tagging of each valve. The manual shall include a description of the tag or a drawing.

#### **1.5.13** Calibration of Measurement and Test Gages

The calibration of measurement and test gage system shall include the periodic calibration of measuring instruments and pressure gages.

Pressure gages used for setting valves are to be checked periodically (indicate frequency) by authorized quality control personnel. The method of gage testing is to be indicated and results recorded.

Periodically, all master gages shall be calibrated, preferably but not

necessarily, to measuring equipment traceable to the National Bureau of Standards.

#### **1.5.14 Training of Valve Repair Personnel**

The certificate holder shall describe a system of providing and documenting in-house training for persons repairing, testing, setting, and sealing safety valves and safety relief valves. This training shall include and document the following as a minimum:

- 1.5.14.1** a general working knowledge of the organization's quality control manual;
- 1.5.14.2** a general working knowledge of the applicable requirements;
- 1.5.14.3** a general working knowledge of the manufacturer's technical bulletin for valves being repaired, tested, set, and sealed.