

**Activity:                    Software, Hardware and Database Controls**

1.0    Purpose:            This guideline provides quality surveillance guidelines for evaluating computer software, hardware and database controls.

2.0    Scope:            Software, Hardware and Database Configuration Standards

E    Installation

E    Modification

E    Usage

3.0    References:

3.1    Mair, William C.; Wood, Donald R.; Davis, Keagle W. Computer Control and Audit.  
Altamonte Springs, FL: Institute of Internal Auditors, Inc., 1976 by Touche, Ross  
and Company.

3.2    Perry, William. A Standard for Auditing Computer Applications. Boston, MA:  
Auerbach Publishers Inc., 1987.

4.0    Guidelines:

4.1    In preparation for and during the conduct of this surveillance:

E    Obtain and review implementing procedures, instructions and drawings governing  
this activity.

E    Prepare a guide or checklist using the selected items from this guideline.

- E Review past surveys, audits, surveillances and other evaluations/ assessments.
- E Ensure that checklists include, where applicable, actual observations of performance, general plant conditions, radiological work practices, housekeeping, work document controls and use, and safety practices.

**NOTE:** Refer to Guideline A.1, "General Quality Surveillance Guidance," for specific details on the attributes listed above.

#### 4.2 Software, Hardware and Database Configuration Standards

- A. Select the general quality surveillance topic from the following, or related, general categories:
  - 1) Compatibility Requirements
  - 2) Documentation Requirements
  - 3) Nuclear Safety Review Requirements
  - 4) Performance Requirements
  - 5) Security Requirements
  - 6) Vendor Support Requirements
- B. Develop appropriate quality surveillance objectives based on the general categories listed above.
- C. Prepare for the quality surveillance by giving special consideration to the following:
  - 1. Timing: This type of surveillance normally would be performed during

regular business hours.

2. Contacts: Contact systems design engineers, computer operations engineers, and their supervisors.
  3. Observation methods: Compare actual configurations against drawings and standards. Observe design meetings.
- D. Observe operating activities and compare actual operating practices to approved procedures and good industry practice..
- E. Perform the quality surveillance in accordance with the appropriate plant-specific surveillance procedures.

#### 4.3 Installation, Modification, and Usage

- A. Select the general quality surveillance topic form the following, or related, general categories:
1. Installation, modification, or operations controls.
  2. Installation, modification, or user training.
  3. Installation, modification, or user documentation.
- B. Develop appropriate quality surveillance objectives based on the general categories selected above.
- C. Prepare for the quality surveillance by giving special consideration to the following:
1. Timing: This type of quality surveillance would normally be performed whenever actual installation, modification, or operational work is being performed.

2. Contacts: Contact systems design engineers, computer operations engineers, installation personnel, maintenance personnel, or their supervisors.
3. Observation methods:
  - a. For installation , compare actual installation configuration against drawings and standards. Observe actual installation activities.
  - b. For modifications, compare actual modifications against drawings and standards. Observe modifications, design meetings, and modification work activities.
  - c. For operations, observe operating activities and compare actual operating practices to approved procedures and good industry practice.
- D. Perform the quality surveillance in accordance with the appropriate plant-specific surveillance procedures.

5.0 Other Guidelines for Consideration:

5.1 A.1, "General Quality Surveillance Guidance"