

Activity: **Housekeeping**

1.0 Purpose: To provide a method of assuring that housekeeping practices are in compliance with applicable standards, regulations, procedures and/or instructions in effect at a Nuclear Power Plant.

2.0 Scope: This guideline provides a means of evaluating the following areas:

- E General cleanliness of the facility
- E Material and equipment cleanliness
- E Fire prevention
- E Access control and protection of equipment

3.0 References:

- 3.1 INPO - 85-038, Chapter XIII, "Guidelines for the Conduct of Maintenance at Nuclear Power Stations"
- 3.2 ANSI - N45.2.3
- 3.3 IEEE - 336
- 3.4 NRC - Inspection Procedure "71302"
- 3.5 ANSI - N45.2.1
- 3.6 INPO - 84-030, OP-206, "Generic Round Sheets and Shift Operating Practices"
- 3.7 INPO - 84-021, OP-204, "Conduct of Operations"
- 3.8 INPO - 83-045, MA-301, "Plant Material Deficiency Identification"

3.9 Reg Guide - 1.39

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 Verify housekeeping tours are not just made, but are productive by observing the tours and checking previous tour documentation for identified deficiencies and trends.
- 4.3 Verify housekeeping zones are established and posted as required.
- 4.4 Observe that personnel are made aware of and implement good housekeeping requirements.
- 4.5 Observe ramps, aisles, passageways, and stairs for conditions that could degrade material conditions or impair personnel access and egress.
- 4.6 Observe storage areas for conformance to procedures and instructions regarding the

following:

- A. Adequacy of access control
 - B. Evidence of damage or deterioration
 - C. Adequacy of protection against weather exposure and other factors leading to possible damage
 - D. Adequacy of solvent storage facilities
- 4.7 Observe work areas or housekeeping zones for maintenance of environmental conditions within housekeeping requirements.
- 4.8 Survey installed equipment for adequacy in the following areas:
- A. Maintenance of protection
 - B. Preservation of precautionary signs
 - C. Preservation of equipment identification
 - D. Protection from weather, movement of materials or equipment and other factors which may result in damage to installed items
 - E. Prevent collection of debris that could compromise critical spacing criteria
- 4.9 Where personnel and/or material and tool accountability controls are utilized, verify the following:
- A. That access and egress from zones requiring personnel and/or material and tool accountability, are controlled and monitored by an individual assigned responsibility for this function.
 - B. That the access/egress monitor is maintaining a written personnel and

material/tool accountability log?

- 4.10 Equipment Identification - Verify required equipment identification tags, labels and nameplates are present and legible.
- 4.11 Verify the external surfaces of plant equipment are free of dust and grease (light films are acceptable) and there are no loose parts, material, metal chips, filings, etc. present that would be detrimental to plant equipment.
- 4.12 Verify that vents and drains are free of obstructions and capped or plugged when required.
- 4.13 Observe that tubing is not damaged, support fasteners are intact, and the tubing is not being used as scaffold supports or ladders.
- 4.14 Observe dust/dirt/moisture barriers are installed and sealed to protect the equipment/components.
- 4.15 Verify filters, both permanent and temporary, are clean and free of damage.
- 4.16 Verify that meters/gauges/sightglasses faces or housings show no evidence of damage and are not opaque due to age. Verify oil sightglasses are free of emulsion that is indicative of water being present in the oil.
- 4.17 Visually inspect for loose, damaged, broken or missing parts/components on equipment.
- 4.18 Verify no evidence of overheating or surface discoloration.
- 4.19 Verify equipment heaters are energized where required.
- 4.20 Verify that flex conduit is free of damage and signs of deterioration.

- 4.21 Visually inspect equipment/components for evidence of oil and water leakage and evaluate extent of any damage.
- 4.22 Observe valve packing gland for damage and proper alignment with yoke.
 - A. Observe valves for loose or missing parts, debris, paint on valve stem and lube fittings.
 - B. Observe seal wire on safety and relief valves to assure they are intact.
- 4.23 Fire Program - Observe the following:
 - A. Fire Barrier/Seals - Observe to see that the fire barriers and penetration seals do not have evidence of missing pieces, holes, tears or protrusions.
 - B. Proper Lighting
 - C. Access/Egress Routes (Accessibility)
 - D. Flammable/Combustible Storage Cabinets
 - E. Non-Smoking areas observed
 - F. Fire Doors (normally closed)
 - G. Floor Drains free of debris
 - H. Storage Areas
 - I. Ventilation
 - J. Fire Protection System and Equipment
 - K. Maintenance Activities (Fire/Combustible Permits)

5.0 Other Guidelines for Consideration:

- 5.1 A.1, "General Quality Surveillance Guidance"
- 5.2 I.1, "Fire Barrier Control"
- 5.3 I.3, "Fire Equipment"
- 5.4 I.4, "Fire Prevention"
- 5.5 L.1, "Cleanliness"
- 5.6 P.6, "Access Control"
- 5.7 V.6, "Chemical Cleaning & Flushing of Fluid System Components"