Principles of Nuclear Safety

Module 14

SURVEILLANCE

Slide 1

Definition of Surveillance

***Surveillance** is the act of observing real time activities or reviewing documentation to verify conformance to specified requirements and industry good practices, and to evaluate their adequacy and effectiveness.*

Slide 2

Purposes of Surveillance Program

To ascertain extent to which plant design, operations and maintenance:

1) *meet the terms & conditions of the License*
2) *optimize plant reliability & cost effectiveness*

Surveillance Roles & Responsibilities

- *Role of System Responsible Engineer (SRE):*
  - *specifies surveillance program requirements*
  - *evaluates results*
  - *initiates corrective action to improve system performance*
- *Operations staff execute the field activities*

Operator Surveillance Activities

- *Shift Routines--eg, field tours, panel checks*
- *Call-ups--periodic, formally documented tasks*
- *Tests on poised, safety-related systems*
  - *to detect and correct failures*
  - *to assess availability*
  - *to validate safety assumptions*

Maintenance Surveillance Activities

- *Periodic call-ups*
  - *eg, to change lubricant, replace filters, replace ageing components,...*
- *Detailed inspections*
  - *to monitor wear rate, ageing effects,...*
  - *to detect incipient failures*
- *Breakdown maintenance*
  - *to restore operation to satisfy safety analysis assumptions*

SS Surveillance Role

- *Ensures field activities executed to a proper standard*
  - *especially deficiency reporting and correction*
- *Personally monitors O&M to ensure compliance with OP&P and PROL*
  - *eg, panel check sheets and SSS test forms*
- *Reports significant events via SER and Shift Summary Report*