



# ***MPC&A Inspection Process Overview***

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**Glenn Tuttle, MC&A Statistician  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission**

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# U.S. Regulatory Authority for MPC&A

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- Atomic Energy Act of 1954
  - Created the Atomic Energy Commission (AEC) to direct the development, use, and control of atomic energy
- Energy Reorganization Act of 1974
  - Separated the AEC's regulatory function from its promotional and military functions
  - Established the Nuclear Regulatory Commission
- Title 10 of the Code of Federal Regulations

# NRC Regulatory Framework

- **Regulations and guidance**
- **Licensing and certification**
- **Inspection and performance assessment**
- **Enforcement**
- **Investigation of allegations**



# Implementing the Regulations

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- Code of Federal Regulations
- Regulatory Guidance
  - Provide guidance for implementing NRC regulations
- Acceptance Criteria
  - Facility plan guidance for licensees and license reviewers
- Licensee (Facility) Plans
  - Security Plan
  - Fundamental Nuclear Material Control Plan
- Information Notice
  - Inform licensees of lessons learned

# MPC&A Inspection Program

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- Separate inspections/different inspectors
  - Physical Protection
    - Power reactors
    - Fuel facilities
  - Material Control and Accounting (MC&A)
    - Power reactors (limited MC&A)
    - Fuel facilities
  - Research and test reactors (MC&A and physical protection)

# Core Inspection Program

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- Described in NRC Inspection Manual
- Minimum required inspection program necessary to:
  - Determine if facility is operating securely in accordance with regulatory requirements
  - Identify indications of declining safeguards performance
- Inspection frequency/effort may change
  - Licensee performance reviews for fuel facilities
  - Reactor oversight process

# Planning/Preparing

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- Contact licensee
  - Announced vs. unannounced inspection
  - Ensure necessary licensee staff are on site
- Prepare for the inspection
  - Review previous inspection reports for problem areas identified
  - Review licensing actions since last inspection
  - Review latest licensee performance review
  - Input from other inspectors/project managers
  - Review licensee's approved Security/MC&A Plan
  - Review licensee's written procedures, reports, other documents
- Prepare inspection plan

# On-Site/Entrance Meeting

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- Entrance meeting with facility staff/management
  - Discuss inspection plan
  - Establish which activities are available to be observed
  - Discuss any licensee program changes since last inspection including staff changes
  - Discuss any challenges to the program observed by the licensee
  - Establish contacts (organization chart)
  - Establish schedule including Exit Meeting



## **Inspection Activities (MC&A)**

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- Review of licensee's approved written MC&A plan and implementing procedures
- Review of records and reports
- Direct observation of MC&A activities, including processing activities and measurements
- Interviews
  - Licensee management
  - Operations personnel performing MC&A activities
  - MC&A staff
- Audit of inventory list

# Inspection Guidance (MC&A)

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- Guidance for inspectors in NRC Inspection Manual
  - Inspection procedures for each of the MC&A program areas
- Regulatory Guides (may reference a standard)
- Standards
- Guidance (acceptance criteria) for writing MC&A plans
  - Used by licensee to write MC&A Plan
  - Used by NRC license reviewers to evaluate licensee's Plan

# MC&A Inspection Technique

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- Random (or representative) selection of items or activities
  - Verify item identity, contents, and location
  - Verify calibration and control of measurement systems used to establish item contents or perform the activity
  - Verify training and qualification of operators or technicians that measured the item or performed the activity

# Inspection Briefings/Findings

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- Inspectors inform facility staff immediately of unsafe conditions
- Inspectors inform facility management of any findings as soon as possible so the licensee can begin corrective action(s)
  - Daily briefings
- Inspectors keep NRC management informed of the inspection results during the inspection

# Exit Meeting

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- Short exit meeting with facility management/staff
  - Discuss inspection results and findings
- No surprises at exit meeting
- Licensee may disagree with results/conclusions
- Inspection results/conclusions are preliminary
  - NRC management reviews results/conclusions and approves the final inspection report

# Inspection Reports and Follow-up

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- Inspection reports
  - Inspectors use guidance in NRC Inspection Manual
  - Reports are reviewed by NRC management
- Track inspection findings
  - Formal tracking system
  - Review previous findings during inspection preparation
- Licensee Performance Reviews (fuel facilities)
  - Usually a one or two year review across all inspection areas

# Summary

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- Core inspection requirements in NRC Inspection Manual
- Develop inspection schedule at beginning of year
- Preparation/planning 2-3 weeks before inspection
- Conduct inspection (usually 1 week)
  - Entrance meeting at beginning of inspection
  - Conduct inspection with periodic briefings
  - Present findings at exit meeting
- Write inspection report (issue within 30 days)
- Follow-up on inspection findings