



**NRC Workshop on  
Vendor Oversight for  
New Reactor Construction**

**NRC Perspective on Commercial-Grade Item  
Sampling Process**

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December 11, 2008



# TOPIC AREAS

1. Dedication
2. Regulatory Guidance
3. Comparison of:
  - Draft Regulatory Guide (DG)-1070, “Sampling Plans Used for Dedicating Simple Metallic Commercial Grade Items [CGIs] for use in Nuclear Power Plants,” to
  - Electric Power Research Institute (EPRI) TR-017218-R1, “Guideline for Sampling in the CGI Acceptance Process”
4. Possible Future Steps

# Dedication

## What is dedication supposed to achieve?

- Acceptance process that provides ***reasonable assurance*** that a commercial-grade item to be used as a basic component will perform its intended safety function..... *10 CFR 21.3*
- Sampling is a way to verify critical characteristics on a representative number of CGIs versus 100% verification testing..... *IP 38703*

# Regulatory Guidance

- NRC endorsed industry guidance of EPRI NP-5652, “Guideline for the Utilization of Commercial Grade Items in Nuclear Safety Related Applications (NCIG-07),” in Generic Letter (GL) 89-02, “Actions to Improve the Detection of Counterfeit and Fraudulently Marketed Products.”
- Dedication Rulemaking
  - NRC determined that regulations and existing guidance were sufficient. Halted in 1995.
- However, neither document addressed use of sampling in detail.
- NRC Guidance specific to sampling was provided to inspectors in Inspection Procedure (IP) 38703, “Commercial Grade Dedication,” issued in 1996.

# Regulatory Guidance

## Inspection Procedure 38703 – (Sampling)

- Sampling plans controlled
- Lot traceability/homogeneity
  - “When lot/batch (defined as units of product of a single type, grade, class, size, and composition, manufactured under essentially the same conditions and at essentially the same time) control is established through a commercial grade survey, the party performing dedication of such items can use sampling prescribed by standard statistical methods that are based on homogeneous product lots.” (IP 38703, Appendix A)

# Regulatory Guidance

## Inspection Procedure 38703 – (Sampling)

- Adequate documented technical basis
  - When lot/batch control cannot be established, sampling plans need to be considered on individual, item-specific basis and ensure that they are capable of providing a high level of assurance of the item's suitability for service. There may be situations where each item needs to be tested.
- Complexity of item
- Supplier controls

# Regulatory Guidance

- DG-1070 issued as draft in 1997.
- In 1999, NEI/EPRI completed TR-017218-R1, “Guidance for Sampling in the Commercial-Grade Item Acceptance Process” (Revision to NP-7218).
- No official NRC response or endorsement of TR-017218-R1.

# DG-1070 / TR-017218-R1 Comparison

## DG-1070 guidance stipulated:

- Sampling limited to simple metallic commercial grade items
- Smaller sample sizes
- More restrictive than MIL-STD-105E
- DG-1070 never finalized



# DG-1070 / TR-017218-R1 Comparison

## EPRI TR-017218-R1 Guidance provides:

- Normal, Tightened and Reduced Sampling Plans
- Destructive testing sample plan
- Guidance on selecting appropriate sampling plans
- TR-017218-R1 is not endorsed by the NRC

# Possible Future Steps

## NRC and Stakeholders (EPRI, NEI, NUPIC, ....) work to:

- Review TR-017218-R1 for potential endorsement?
- Resolve any issues.

# Questions or Comments?

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References can be found on the NRC website:

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