



**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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