Historical Regulatory Perspective of the Impact of Counterfeit and Substandard Items in the Nuclear Industry

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U.S.NRC
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Protecting People and the Environment

Topics

- Historical Overview
  - Past
  - Summary of Lessons Learned
  - Why Should We Care?

Mid-Late 1980's – Wide Range of Potential Counterfeit/Substandard Products Identified

- Pipe materials, fittings, flanges
- Valves and valve replacement parts
- Various electrical equipment
- Fasteners

NRC/Industry Guidance Introduced

- Licensees implement improved NRC/industry guidance
  - Nuclear Management Resource Council (NUMARC) 90-13
  - Electric Power Research Institute (EPRI) 5652
- NRC also issues guidance for effective commercial-grade dedication (CGD) and counterfeit/substandard parts
  - Generic Letter (GL) 89-02 – Discussed detection of counterfeit/substandard items
  - GL 91-05 – Discussed findings from inspections
- Several NRC/industry meetings to clarify guidance

January 1989 – Advanced Notice of Proposed Rulemaking (ANPR)

- Possible need for regulatory actions
- Focus on procurement/CGD issues
- Address counterfeit/substandard items concerns

NRC Activities: 1990 – 1991

- March 1990 – NRC pauses inspections
- February 1991 – NRC Assessments Performed
  - Evaluate licensee's revised programs
  - Compared to program that existed in mid-1989
  - NRC noted overall improvement
- Continued areas for improvement
  - Not performing CGD surveys (Method 2) per EPRI 5652
  - Failure modes and effects analysis (FMEA) not being performed
  - Critical characteristics not tied to safety function

1991-1992 – Resumed Inspection Activities

- Five pilot inspections performed
- Staff concludes staff/industry efforts in procurement and CGD effective
  - No need for proposed rulemaking
- Attempted to develop better inspection guidance (Inspection Procedure 38703)
- April 1993 – Procurement and dedication workshop

NRC issued §50.5, “Deliberate Misconduct” rule change

- Provided staff tool to pursue cases of a licensee, contractor or subcontractor deliberately providing material, goods or services that causes a licensee to be in violation of a rule
- A supplier providing counterfeit/substandard items for safety-related applications is subject this regulation

NRC Actions – Inspections & Generic Communications

- 1988-onward – The NRC performed over 150 vendor inspections
  - NRC-identified suspect practices referred to Office of Investigations for resolution
  - If problem was generic to industry, then generic communication was issued
  - NRC issued over 30 Information Notices (INs) and Bulletins relating to counterfeit/substandard parts

Interagency Efforts

- August 1988 – NRC worked with Office of Management and Budget (OMB) to host interagency meeting
- 1990-1992 – Interagency Working Group on problem parts and suppliers
  - Technical and investigative information sharing
  - Use of Government-Industry Data Exchange Program (GIDEP)

GIDEP

- Government managed/funded (Navy)
- Government agencies/contractors
- Several databases
- Not very relevant to NRC/nuclear industry
- Not timely

Government interest in NRC activities on counterfeit/substandard parts

- 1987 House Subcommittee on Oversight and Investigations
  - Broad investigation into use of counterfeit/substandard fasteners in military and industry
  - Committed to organize interagency effort – contacted OMB
- Government Accounting Office (GAO) initiated audit at request of Subcommittee
  - October 1990 – Report issued that stated counterfeit/substandard parts a concern to many government agencies
  - Implied NRC deferring inspections
- March 1991 – Executive Director for Operations (EDO) addresses Subcommittee
- SECY 94-297 – NRC responds to Congress
  - Informs Congress of decision to perform reactive inspections

Lessons Learned

- IN 89-70, “Possible Indications of Misrepresented Vendor Products”
- Listed common characteristics of misrepresented products:
  - Low cost and fast delivery – Too good to be true
  - The original equipment manufacturer (OEM) is no longer in business
  - Product is marketed by one supplier and drop shipped from another
  - Unusual packaging
  - Missing or non-matching tag
  - Improper dimensions
  - Wear marks

Why Should We Care?

- Potential impact on safety
- Industry reputation
  - Victimizes legitimate vendors
  - Reduces customer confidence
- Financial impact

Summary

- Develop a strong commercial-grade dedication program.
  - Surveys address specific critical characteristics
  - Engineering is engaged in the process
- Consider development of C/S item identification procedures
  - Strengthening receipt inspection procedure
  - C/S item identification and disposition procedure

QUESTIONS?

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