



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Adm. copy
Generic Letters - 1988 -
Draft - 88/20

December 6, 1988

Mr. Alex Marion
Nuclear Management and Resources Council
1776 I Street, N.W.
Suite 1300
Washington, D.C. 20006-1280

Dear Mr. Marion:

The NRC is preparing a generic letter that conditionally endorses the EPRI Report, "Guidelines for the Utilization of Commercial Grade Items in Nuclear Safety Related Applications (EPRI NP-5652)." Enclosed is a draft of the generic letter for NUMARC review and comment. I would appreciate any comments you may have by close of business, Friday, December 9, 1988 so that we may consider them prior to our discussion with CRGR.

You may contact me on (301) 492-0969.

Sincerely,

Brian K. Grimes, Director
Division of Reactor Inspection and Safeguards
Office of Nuclear Reactor Regulation

Enclosure:
Draft Generic Letter

cc: U.S. NRC Public Document Room

88 DEC 6 - 6 PM 22

RECEIVED BY

250143

RECEIVED NET

IDR-5 Generic Ltr DFO 3
1/1

88/2090056 YAM/pP 7/25/96



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DRAFT

TO: ALL HOLDERS OF OPERATING LICENSES AND CONSTRUCTION PERMITS FOR
NUCLEAR POWER REACTORS

SUBJECT: FRAUDULENT NONCONFORMING PRODUCTS AND DEDICATION OF COMMERCIAL GRADE
PRODUCTS (GENERIC LETTER 88-XX)

This generic letter requests that all holders of operating licenses and construction permits for nuclear power reactors (hereafter referred to as addressees) take immediate action to evaluate their current programs and, as necessary, develop and implement programs to preclude introduction of fraudulent nonconforming materials and equipment into their plants. Each addressee is requested to certify that such programs have been implemented. This letter also conditionally endorses EPRI NP-5652, "Guideline for the Utilization of Commercial Grade Items in Nuclear Safety Related Applications (NCIG-07)," that was issued by EPRI in June 1988.

Background:

Numerous instances have been identified by the NRC in which the nuclear industry received, accepted, and installed items of hardware that were not of the quality purported by the manufacturer or supplier (see the enclosed list of Information Notices and Bulletins). Instances of nonconforming materials or equipment involving apparent fraud, when known by NRC, have been reported to the industry as noted in the examples below:

- ° NRC Bulletin 87-02 addressed the supply and use of substandard fasteners in both non-safety and safety-related applications.
- ° NRC Bulletin 88-05 addressed certified material test reports (CMTRs) containing false information about piping material supplied to the nuclear industry.
- ° NRC Information Notice 88-46 addressed defective refurbished electrical equipment supplied as new equipment for both non-safety and safety-related applications.
- ° NRC Information Notice 88-48 addressed apparently counterfeit and/or refurbished valves supplied as new equipment for a non-safety related application.
- ° NRC Bulletin 88-10 addressed defective refurbished molded-case circuit breakers supplied as new equipment for both non-safety and safety-related applications.

Examples of significant deficiencies have also been identified in the procurement and dedication of commercial grade items, with errors traceable to both

DRAFT

suppliers and addressees. Examples of such deficiencies identified in NRC inspection reports (IRs) are:

- ° Commercial grade circuit breakers bought by a supplier were sold to, accepted by and installed by a licensee as seismically qualified/safety-related with no technical basis for the qualification (IR 50-348 and 364/87-11).
- ° Commercial grade items for use in safety-related applications were accepted solely on the basis of part number comparison (IR 50-312/88-02).
- ° Commercial grade items for use in safety-related applications were accepted solely on the basis of certificates of conformance (C of Cs) from unapproved vendors without verifying the validity of the C of Cs.

The combination of possible fraudulent materials and equipment, combined with inadequate dedication of commercial grade items by suppliers and addressees, increases the probability that some hardware installed in safety-related applications may not perform as expected.

Discussion:

Procurement quality assurance (QA) controls are established in Appendix B of 10 CFR Part 50, in Chapter 17 of the Standard Review Plan (NUREG-0800), and in Regulatory Guides 1.28, 1.33, and 1.123. Although these controls were not developed to address the problem of fraud, a properly implemented procurement program increases the probability of detecting fraudulent material.

The NRC staff has often observed an over-reliance on certification documentation and takes the position that addressees must become more aggressive in their efforts to assure the quality of procured equipment and materials and to detect fraudulent hardware and prevent its use. Therefore, rather than solely depend on certification documentation, addressees should develop and implement improved receipt/source inspection and testing criteria, effective vendor audits, special tests and inspections, and post-installation tests. The improved inspection and testing criteria should be applicable to all products procured for use in safety-related systems and for all commercial grade products being dedicated for use in safety-related systems. The improved inspection and testing criteria should require verification of the products' critical characteristics. For certain materials and equipment, sampling plans may be utilized to perform the required inspections and tests. In addition to these improved receipt/source inspections and tests, addressees should verify with their authorized distributors the traceability of procured materials, equipment, and components.

It is each addressee's responsibility to ensure, through proper and complete implementation of Appendix B, that fraudulent nonconforming materials and equipment are not introduced into their plants. Dedication programs which assure the adequacy of critical parameters of components used in safety-related applications can also contribute to the identification of misrepresented materials and equipment. The NRC encourages addressees to significantly upgrade their dedication programs through a joint industry effort and to ensure their adequacy and consistency. The NRC will monitor these industry initiatives and if they are not sufficient or not timely, or if problems with the

dedication of commercial grade equipment for safety-related use continue, the NRC will take appropriate regulatory actions.

Endorsement:

As a result of inspections and other regulatory efforts, the NRC has identified programmatic weaknesses in addressees' procurement quality assurance programs. In order to ensure that existing procurement requirements are being met, the NRC encourages addressees to use methods similar to those described in EPRI NP-5652 "Guideline for the Utilization of Commercial Grade Items in Nuclear Safety Related Applications (NCIG-07)," to verify the critical characteristics of commercial grade items intended for safety-related applications.

The EPRI guideline presents methods to satisfy existing requirements as they apply to commercial grade items. The endorsement neither relaxes nor augments the procurement requirements of Appendix B of 10 CFR Part 50. Appendix B applies to all activities affecting the quality of safety-related structures, systems, and components.

The methods described by the EPRI guideline are acceptable to the NRC for satisfying the Commission's regulations to ensure that commercial grade items can perform their safety-related functions subject to the following conditions:

1. Commercial grade items should only be used if items manufactured under a 10 CFR Appendix B program are not available for the intended safety-related application.
2. Acceptance Method 2, "Commercial Grade Survey of Supplier," should not be employed as the basis for accepting items from suppliers unless a program has been implemented to assure that the suppliers are effectively implementing the necessary controls.
3. Acceptance Method 2, "Commercial Grade Survey of Supplier," should not be employed as the basis for accepting items supplied by distributors unless the survey includes the part manufacturer(s).
4. Acceptance Method 2, "Commercial Grade Survey of Supplier," should not be employed as the basis for accepting items from suppliers with undocumented quality control programs.
5. Acceptance Method 4, "Acceptable Supplier/Item Performance Record," should not be employed alone unless:
 - a. The items are restricted to those relatively simple and standard in design, manufacture and test; and
 - b. The established historical record is based on industry-wide performance data that is directly applicable to the item's critical characteristics and the intended safety-related application; and
 - c. The manufacturer's measures for the control of design, process, and material changes have been adequately implemented and verified.

DRAFT

Actions Requested:

The NRC requests that all addressees implement a program within 120 days from receipt of this generic letter to ensure that fraudulent nonconforming materials and components are identified before they are installed. The program should provide a means to 1) disseminate the results of supplier audits and receipt inspections to other licensees and construction permit holders, 2) ensure the acceptability of a sample of procured items by more frequent and in-depth audits of vendors and suppliers, 3) verify that genuine parts have been received by licensee's source/receipt inspection and testing, and 4) verify independently the supplier's

conformance with the appropriate technical requirements through in-depth engineering/technical audits. Further, each addressee is requested to assure that the dedication programs employed to upgrade commercial grade procurements are equivalent to the methods endorsed above. The requested actions apply to safety-related and commercial grade procurement for items used in the dedication process.

Actions Required:

Pursuant to 10 CFR 50.54(f), the NRC requires that all addressees certify within 120 days from the date of receipt of this generic letter that the above program has been implemented as requested. Addressees shall also report, in summary fashion, the results of their evaluation of their existing procurement programs. This certification and report shall be addressed to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555, under oath and affirmation.

This request is covered by Office of Management and Budget Clearance Number 3150-0011 which expires December 31, 1989. The estimated average burden hour is 500 manhours per plant response, including assessment of these requirements preparing the required reports. Comments on the accuracy of this estimate and suggestions to reduce the burden may be directed to the Office of Management and Budget, Room 3208, New Executive Office Building, Washington, D.C. 20503, and to the U.S. Nuclear Regulatory Commission, Records and Records Management Branch, Office of Administration and Resources Management, Washington, D.C. 20555.

If you have any questions regarding this matter, please contact one of the technical contacts listed below.

Sincerely,

Dennis M. Crutchfield
Acting Associate Director for Projects
Office of Nuclear Reactor Regulation

Enclosure:
List of Bulletins & Info. Notices

Contact:
Bill Brach
(301) 492-0961

DRAFT

DRAFT

Enclosure to Generic Letter 88-XX

BULLETINS AND INFORMATION NOTICES CONCERNING
NONCONFORMING MATERIALS AND EQUIPMENT

<u>Bulletin No.</u>	<u>Title</u>	<u>Date</u>
82-01	Alteration of Radiographs of Welds in Piping Subassemblies	03/31/82
82-01, Rev. 1		05/07/82
82-01, Rev. 1, Supplement 1		08/18/82
83-06	Nonconforming Materials Supplied by Tube-Line Corporation Facilities at Long Island City, New York; Houston, Texas; and Carol Stream, Illinois	07/22/83
83-07*	Apparently Fraudulent Products Sold by Ray Miller, Inc.	07/22/83
83-07, Supplement 1*		10/26/83
83-07, Supplement 2*		12/09/83
87-02*	Fastener Testing to Determine Conformance with Applicable Material Specifications	11/06/87
87-02, Supplement 1*		04/22/88
87-02, Supplement 2*		06/10/88
88-05*	Nonconforming Materials Supplied by Piping Supplies, Inc., at Folsum, New Jersey, and West Jersey Manufacturing Company at Williamstown, New Jersey	05/06/88
88-05, Supplement 1*		06/15/88
88-05, Supplement 2*		08/03/88
88-10*	Nonconforming Molded-Case Circuit Breakers	11/22/88

*These items reflect instances where suppliers and manufacturers of nuclear-grade material may have intentionally eluded QA requirements to misrepresent the quality of their products. In at least five of the eleven instances marked by an asterisk, the problem was brought to NRC's attention by either a licensee or a nuclear supplier.

DRAFT

DRAFT

<u>Info. Notice No.</u>	<u>Title</u>	<u>Date</u>
83-01*	Ray Miller, Inc.	01/26/83
83-01, Supplement 1*		04/15/83
83-07	Nonconformities with Materials Supplied by Tube Line Corporation	03/07/83
83-60*	Falsification of Test Results for Protective Coatings	09/22/83
85-19*	Alleged Falsification of Certifications and Alterations of Markings on Piping, Valves, and Fittings	03/11/85
86-45*	Potential Falsification of Test Results on Flanges Manufactured by Golden Gate Forge and Flange, Inc.	06/10/86
88-19*	Questionable Certification of Class 1E Components	04/26/88
88-35	Inadequate Licensee Performed Vendor Audits	06/03/88
88-46*	Licensee Report of Defective Refurbished Circuit Breakers	07/08/88
88-46, Supplement 1*		07/21/88
88-48*	Licensee Report of Defective Refurbished Valves	07/12/88
88-48, Supplement 1*		08/24/88

*These items reflect instances where suppliers and manufacturers of nuclear-grade material may have intentionally eluded QA requirements to misrepresent the quality of their products. In at least five of the eleven instances marked by an asterisk, the problem was brought to NRC's attention by either a licensee or a nuclear supplier.

DRAFT