May 22, 1984

Mr. Glenn Meyer
U. S. Nuclear Regulatory Commission
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

SUBJECT: Proposed Changes to QA Policy
QA File: QAG 3.3
Our Ref: QAO K-0779

Dear Mr. Meyer:

Attached is a draft copy of the proposed changes to BG&E's Quality Assurance Policy. These changes are based on our discussions with you during your visit to our office on September 23, 1984, and NRC Inspection Report Nos. 50-317/83-26; 50-318/83-26 dated November 9, 1983.

Please let us know if you have any questions.

Very truly yours,

A. B. Anuje
Supervisor
Internal Audits and Programs

ABA/bls

cc: (W/O Enclosures)
D. A. Brune, Esq.
G. F. Trowbridge, Esq.
Messrs. D. H. Jaffee, NRC
T. Foley, NRC

bcc: R. M. Douglass
S. M. Davis
R. C. L. Olson

PRF-Q No. 550

PROPOSED REVISION FORM FOR A QAP

To initiate changes in a Procedure used for controlling quality in nuclear power plants, the proposer must complete Parts A through F of this form, proceeding as in QAP 1, Section 2.8.

A. Proposed Revision to: QA Policy Revision 7

B. Change: See attached

C. From: Existing

D. To: See attached

E. Reason for change:

To clarify exceptions taken in the Policy Statement as requested by the NRC.

F. Proposed D. B. Sikora Department 24-QAD Date 03/15/84

G. Approved for Emergency use per QAP 1, Section 2.9

_____ Department _____ Date _____
Manager

This approval expires on (date) _____.

H. Reviewed per QAP 1 _____ Department _____ Date _____
Technical Reviewer

I. Reviewed per QAP 1 _____ Department _____ Date _____
Quality Assurance Reviewer

J. Not Approved _____ Department _____ Date _____
Manager/Reviewer

Reason:

K. Approval by the Manager, Quality Assurance Department, certifies that this document has also been approved by the following Responsible Managers:

Managers of

Electric Engineering
Production Maintenance
Quality Assurance
Electric Test
Project Management
Nuclear Power
Purchasing and Stores
Real Estate and Office Services

QAP ____ DRAFT ____ REVISION ____ Approved by _____ on _____
Manager, Quality Assurance

CC 1253 Rev. 9

BALTIMORE GAS AND ELECTRIC COMPANY

QUALITY ASSURANCE POLICY

(SECTION 1B OF THE FINAL SAFETY ANALYSIS REPORT

FOR THE

CALVERT CLIFFS NUCLEAR POWER PLANT)

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Safety-related maintenance and repair are performed by plant maintenance personnel under the direction of the General Supervisor, Electrical and Controls, Nuclear Power Department, and the General Foreman, Production Maintenance Department according to written Procedures or instructions prepared by the maintenance force and approved as stated in the Quality Assurance Manual for Nuclear Power Plants. These Procedures

1. Ensure that quality-related activities, such as inspection and test, are performed with appropriate equipment and under suitable environmental conditions

2. Indicate inspections and checks that must be made and records and data that must be kept

3. Show where independent verifications of inspections or checks should be performed by specified personnel other than those performing the work

When necessary, non-plant Company personnel or outside contractors are brought in to supplement the plant work force. In such instances, the approval of work procedures and the tagging of equipment are coordinated by a member of the organization responsible for the performance of the work. BG+E

Controls are established in the Quality Assurance Manual for Nuclear Power Plants to ensure that materials and parts used in the repair, maintenance, and modification of safety-related portions of the plant are appropriate for the service intended. Written Procedures are prepared for the storage and identification of materials and parts to ensure that they do not deteriorate in storage and can be correctly identified before installation or use.

Equipment manufacturers and contractors used for the repair, maintenance, and modification of safety-related structures, systems, and components are required to have quality assurance programs consistent with the importance of the end-product to safety.

1B.3 DESIGN CONTROL

Control

Plant modifications described in the FSAR and considered significant for nuclear safety are controlled by the Quality Assurance Manual for Nuclear Power Plants, which is written to ensure compliance with Regulatory Guide 1.64 and 10 CFR 50.59.

Alterations to the Operating License, including Technical Specifications, the FSAR, and the Emergency Response Plan, are subject to the same controls as are alterations to changes, tests, and experiments defined in 10 CFR 50.59.

Controls for changes, tests, and experiments conducted at Calvert Cliffs vary according to the following:

1. As the item or activity affected is or is not described in the FSAR

2. As the item or activity affected has been classified safety-related or non-safety-related.

3. As a safety analysis is or is not required

8. Design and specification changes are subject to design controls and approvals applicable to the original design.

9. Design documents and revisions thereto are distributed to responsible individuals and controlled to prevent inadvertent use of superseded material.

10. Design errors and deficiencies that adversely affect safety-related structures, systems, and components are documented, and appropriate corrective action is taken.

11. Design documents and reviews, records, and changes thereto are collected, stored, maintained, and controlled systematically.

12. Standard off-the-shelf commercial or previously approved materials, parts, and equipment essential to the safety-related functions of structures, systems, and components are reviewed for suitability of application before they are selected.

13. The persons or groups responsible for design reviews and other design verification activities and their authority and responsibilities are identified.

14. Design changes to non-safety-related items initiated and approved at the plant are controlled to ensure compliance with 10 CFR 50.59.

15. Processes used to select suitable materials, parts, equipment, and processes for safety-related structures, systems, and components includes the application of pertinent industry standards and specifications, material and prototype hardware testing programs, and design reviews.

16. Computer programs used in design are subject to design controls and program verification.

18.4 PROCUREMENT DOCUMENT CONTROL

Methods of Purchase

Controls have been established to specify the sequence of actions to be followed in the preparation, review, approval, and control of procurement documents.

The acquisition and purchase of items or services by BG&E for the Calvert Cliffs plant are subject to controls that depend on

1. The classification of each item or service as safety-related or non-safety-related according to controls established by Electric Engineering personnel

2. The method used for acquisition or purchase

Acquisition and purchase of safety-related and non-safety-related items are initiated by a store order or requisition. Items classified non-safety-related and some non-safety-related services may be acquired or purchased in the same manner as items or services required for fossil plants, but copies of store orders or requisitions are sent to the Electric Engineering Department or the Quality Assurance Department for verification of the non-safety-related classification.

Controls for Specification Purchase

Controls have been established to ensure that safety-related items or services subject to the controls of the Specification Method are obtained only from vendors who have been approved by BG&E Responsible Design Organizations and Ouality Assurance personnel.

BG&E Responsible Design Organizations ensure that, when applicable, the purchase specification

1. Contains or references technical requirements for the basis of design, including the applicable regulatory requirements, component and material identification requirements, drawings, specifications, Codes and industrial standards, test and inspection requirements, and special process instructions for such activities as welding, heat treating, nondestructive testing, and cleaning.

2. Identifies applicable requirements of 10 CFR 50, Appendix B, that must be complied with and described in the supplier's quality assurance program.

3. Requires that major contractors designated as BG&E agents to purchase safety-related items or services must have procurement controls to ensure that they purchase or acquire these items or services in compliance with applicable sections of ANSI N45.2.13.

4. Identifies required documentation (i.e., drawings, specifications, procedures, inspection and fabrication plans, inspection and test records, personnel and procedure qualifications, and material chemical and physical test results) to be prepared, maintained, and submitted, as applicable, to BG&E or the purchaser for review and approval.

5. Identifies records that must be retained, controlled, maintained, or delivered to BG&E or the purchaser before use of installation of hardware.

6. Specifies BG&E's or the procuring agency's right of access to supplier facilities and records for source inspection and audits.

Assigned quality assurance personnel review procurement specifications to verify the adequacy of quality requirements therein. This review determines that quality requirements are correctly stated, inspectable, and controllable; that there are adequate acceptance and rejection criteria; and that these procurement documents have been prepared, reviewed, and approved in accordance with quality assurance program requirements. Records of the quality assurance review and approval of procurement documents are made and kept available for verification.

Changes made to procurement specifications are subject to the levels of review, approval, and audit that were applied in preparing and processing the original documents.

The procurement documents for spare or replacement parts of safety-related structures, systems, and components are subject to controls at least equivalent to those applied for the original equipment.

18.5 INSTRUCTIONS, PROCEDURES, AND DRAWINGS

Controls delineate the sequence of actions to be performed in the preparation, review, approval, and control of instructions, procedures, and drawings.

★ Controls for Commercial Quality Purchase

Controls have been established to ensure that items or services available to the general industry will be sufficiently controlled to perform their safety-related function.

BG&E Responsible Design Organizations evaluate and document if an item or service is suitable for the Commerical Quality Method of purchase by evaluating:

1. The safety-related function of the item or service.

2. Critical operating requirements such as temperature, pressure, flow, seismic criteria, structural power supply, cycling, including environmental qualification testing as applicable.

3. Applicable National Codes or Standards.

4. Traceability or documentation requirements.

5. Circumstances which reduce the possibility of variation in quality among items such as:

   - tools, equipment, or processes used in the manufacture of the item which reduce the possibility of variations between finished products.

   - availability of identical or similar items from several suppliers.

   - use of the item in the general industry and length of period used.

   - use of identical items in non-safety-related applications with similar critical operating or reliability requirements.

The above evaluation is reviewed by the Quality Assurance Department.

★★ Verification Method

The following controls have been established for conducting tests or measurements when it is not possible to specify controls to be applied during the manufacture of an item:

1. BG&E Responsible Design Organizations determine and document

   a. Critical characteristics that must be controlled to ensure that the item can fulfill its safety-related function.

   b. Tests or measurements required to establish that critical characteristics have been controlled.

   c. Applicable handling, storage, and shipping requirements.

2. When tests or measurements are to be conducted by the supplier or another organization outside BG&E, the purchase of these services are treated as a Safety-Related (SR) Specification purchase, and thus subject to all the requirements of SR Specification purchase method.

3. When tests or measurements are to be conducted by BG&E, Responsible Design Organizations in BG&E shall document the applicable requirements and send the document to the Quality Assurance Department for review of the quality assurance requirements.

Receipt

The Purchasing and Stores Department is responsible for receiving and storing materials, parts, and components.

Receiving inspection of material, equipment, and services is performed in accordance with the following:

1. It is verified that the material, component, or equipment is properly identified and that this identification corresponds with the documentation received.

2. Unless other procedures are specified in the shipping documents, items are visually inspected to verify that stated packaging and shipping requirements have been maintained.

3. Items are inspected upon receipt to verify that procurement requirements have been met.

4. Procurement records are inspected and judged acceptable in accordance with predetermined inspection instructions before installation or use of material, components, or equipment.

5. Additional inspections or examinations are made if the item was not inspected at the source.

Documents supplied with received items are reviewed to verify compliance with the requirements of the purchase documents.

Inspection Procedures require that

1. Inspection records or certificates of conformance attesting to acceptance must be available at the nuclear power plant before material, components, and equipment may be released for installation or use. However,

2. The inspection status of items accepted and released must be identified before the items are sent to a controlled storage area or released for installation or further work.

3. ~~An~~ a unacceptable item may be given a "Conditional Release" if it can be made acceptable after installation but before the system that contains it is considered operational. Items released under "Conditional Release" must be controlled under the NCR system.

A written record of the results of receiving inspection and the disposition of received items is maintained as part of the permanent plant records. All safety-related items issued bear an acceptance tag and have documentation to support their acceptability. If traceability is lost or the documentation review is unsatisfactory, an item becomes subject to the controls established for non-conforming safety-related items.

Non-conforming items are handled according to documented procedures and, when practicable, are placed in a segregated area to prevent inadvertent installation or use until proper disposition is made.

Production Maintenance
Department --Mechanical Maintenance

Calibration controls require each group to identify measuring and test equipment and calibration test data related to it.

Written procedures are prepared and implemented to ensure that tools, gauges, instruments, and related test and measuring devices are of proper accuracy to verify conformance to established requirements.

Manufacturer's Procedures are used for calibration when available; otherwise; a Procedure is prepared for each category of measuring and test equipment as necessary. These Calibration Procedures contain the following information:

1. Identification of the item to be calibrated and its period of calibration

2. Standards to be used, specific test-points, and checks, tests, and measurements to be made

3. Acceptance criteria to be used and special precautions to be taken when necessary.

Measuring and test equipment that requires calibration is assigned an identifying serial number. Instruments are calibrated at specified intervals according to the required accuracy, purpose, degree of usage, stability characteristics, and other conditions that affect the measurement.
by the Supervisor ~~Foreman~~ responsible for that equipment
When particular equipment is found out of calibration, an evaluation is made to determine any effect on items previously accepted on the basis of using that equipment.

Test and measuring equipment that cannot be adjusted to required tolerances during calibration is identified and placed in a designated segregated area; if the equipment can be used in limited applications, the limitations are identified.

The status of each item controlled under the calibration system is recorded and maintained. Equipment is marked or records of calibrations are maintained to indicate calibration status. An interval of calibration is established for each item of measuring and test equipment and recorded on a master record of calibrations prepared as a calibration schedule.

Measuring and test equipment is controlled to prevent the use of uncalibrated or defective equipment, the spread of radioactive contamination, the introduction of impurities into high-purity systems, and damage to or loss of equipment. Identification tags are placed on measuring and test equipment to indicate such special conditions as radioactive cleanliness, special limitations, or failure to meet established calibration requirements.

Measuring and test equipment is calibrated and adjusted at specified intervals, or before use, against certified standards. Reference and transfer standards are traceable to nationally recognized standards; or, where national standards do not exist, provisions are established to document the basis for calibration.

provide a comprehensive independent verification and evaluation of quality-related activities and Procedures. Audits ensure the effective and proper implementation of BG&E's Quality Assurance Program. They are scheduled on the basis of the importance to safety of activities being performed.

Supplier audits are performed to evaluate quality assurance programs, procedures, and activities. Audits of major suppliers are made early enough to ensure compliance with all aspects of BG&E's procurement documents. Additional audits are performed as required to ensure that all requirements of BG&E's Quality Assurance Program are properly implemented according to procurement documents.

Audits of designated activities as required by the Technical Specifications are performed under cognizance of the Off-Site Safety Review Committee.

Audits are performed in accordance with pre-established written procedures or checklists by qualified Quality Assurance personnel who have no direct responsibility for the work being audited. Technical specialists from other BG&E departments and outside consultants may assist as necessary in performing audits. Audits include objective evaluation of quality-related practices, procedures, instructions, activities, and items, as well as review of documents and records.

Reports of audits are analyzed and documented. Results that indicate the existence of quality ~~programs~~ problems or a lack of effectiveness in the Quality Assurance Program, including the need for re-audit of deficient areas, are reported to the Manager and Supervisor of the audited activity. Controls have been established for verifying that corrective action is taken promptly to correct noted deficiencies.

To ensure that BG&E's Quality Assurance Department complies with the requirements of BG&E's Quality Assurance Program, an independent management audit of Quality Assurance Department activities is performed annually by a Joint Utility Management Audit Team.

QA Policy

CHANGE:

ANSI N45.2.2 - 1972

FROM:

Item 3

Response

Personnel of BG&E's Electric Engineering Department will determine

1. the level of protective measures to be applied to each item, either on an individual basis when preparing procurement documents or generically for Catalog, Commercial Quality, etc., Methods of Purchase;

2. if the packaging and shipping of an item from the supplier should conform to one of the levels described in ANSI N45.2.2, or if the normal packaging and shipping methods used by general industry will provide sufficient protection;

3. the level of protection to be applied to an item during storage by BG&E personnel after receipt.

Reason

BG&E's position is as follows:

1. For Commercial Quality items, it is not always possible to specify the level of packaging, as most items are purchased after they have been shipped by the manufacturer to his local agent, the wholesaler.

2. It is not always necessary or practical to retain the packaging used for shipment when the item is in storage.

TO:

Item 3

Response

1. The level of protective measures defined by Subsection 2.7 are applied to Specification purchases.

2. Personnel of BG&E's Electric Engineering Department will determine the level of protective measures to be applied to Catalog, Commercial Quality, etc., Methods of Purchase.

Reason

BG&E's position is as follows:

1. For Catalog and Commercial Quality items, it is not always possible to assign a level of classification in accordance with ANSI N45.2.2, as most items are purchased after they have been packaged by the manufacturer and shipped to his local agent, the wholesaler.

2. Experience has shown that the level of protection assigned to Catalog and Commercial Quality items by Suppliers is adequate.

CHANGE AS MARKED:

Item 4

Requirement

Subsection 3.0 specifies detailed requirements for packing items for each level defined in Subsection 2.7.

Response

BG&E has replaced Section 3.0 with the following:

1. Packaging for Shipment to BG&E

Personnel of BG&E's Electric Engineering Department shall ensure that procurement documents for Specification purchases either indicate that the normal methods of packaging and shipment used by industry in general are acceptable for the items being procured or specify the level of protection assigned to the item and the requirement that the supplier conform to applicable requirements for items in that classification defined in Regulatory Guide 1.38, Rev. 2 - March 1977.

ADD:

2. The normal methods of packaging used by the industry in general are acceptable for items being procured by Commercial Quality, Catalog, etc., Methods of Purchase.

CHANGE AS MARKED:

3. ~~1.~~ Packaging for Storage by BG&E

In general the packaging used by the supplier to ship items for all types of purchases to BG&E need not be retained after the item is received by BG&E, provided that the item is stored in an area that meets the requirements for a storage area for the level of protection assigned to the item. Special or unique items, however, may require special protective measures. For such unusual items, the Department that initiated the purchase, together with Electric Engineering, shall identify if any of the requirements of Section 6.4.2 of ANSI N45.2.2 - 1972 apply.

CHANGE AS MARKED:

Reason

1. This substitution will ensure that the item will receive adequate protection during shipment and storage, thus eliminating unnecessary restrictions and enabling BG&E to use commercial sources to the utmost.

ADD:

2. Experience shows that industrial practices for packaging Commercial Quality and Catalog items are adequate for most applications.

CHANGE AS MARKED:

Item 5

Requirement

Section 4.0 defines shipping requirements related to the protection levels assigned to items.

Response

BG&E has replaced Section 4.0 with the following:

Shipping to BG&E

1. BG&E will invoke the requirements for shipping specified in Section 4.0 of ANSI N45.2.2 - 1972 on Specification purchases only when Electric Engineering Department personnel have specified in procurement documents that the item shall be packaged in conformance with ANSI N45.2.2, Section 3.0.

ADD:

2. BG&E will not invoke the requirements of ANSI N45.2.2 - 1972, Section 4.0, on Commercial Quality, Catalog, etc., Methods of Purchase.

CHANGE AS MARKED:

Shipping from BG&E

3. Items shipped from BG&E need not conform to any of the requirements of ANSI N45.2.2, but the organization that packs and handles the item shall provide roughly the same level of protection that the item was given during shipment to BG&E.

DELETE THE FOLLOWING:

Item 8

Requirement

Subparagraph 7.4 gives requirements for establishing a regular inspection program for hoisting equipment and rigging, including a method of identifying acceptable items.

Response

BG&E does not test hoisting equipment and rigging on a regular basis but tests rigging equipment before use; neither does it indicate which items of rigging are acceptable for use.

Reason

It is impractical and unnecessary to establish controls for periodically testing rigging that will be used infrequently and could be tested many times without being used. It is far more practical to inspect or test equipment before use. There will then be no need for a method of indicating acceptable items, and non-acceptable items can be identified by a Non-conformance Tag.

CHANGE:

ANSI N45.2.9 - 1976

FROM:

Item 2

Requirement

Subsection 5.6.1, item (1) states that "no pipes other than those providing fire protection to the storage facility are to be located within the facility."

Response

The BG&E storage facility is controlled by the following statement: "no pipes or ducts other than those providing fire protection, HVAC, and electricity to the storage facility are to be located within the facility."

Reason

Unless electrical and HVAC penetrations are allowed, the records cannot be properly protected during storage.

TO:

Item 2

Requirement

Subsection 5.6.1 reads as follows, "Design and construction of a single record storage facility shall meet the following criteria:" Items a) and b) of the subsection state that:

"a) Reinforced concrete, concrete block, masonry, or equal construction."

"b) A floor and roof with drainage control. If a floor drain is provided, a check valve (or equal) shall be included."

Response/Reason

Item a

The intent of this requirement is both structural integrity and fire resistance. This vault is entirely enveloped by a structurally sound, fire resistive building. Second, the vault rests on a reinforced slab on grade and its walls extend fully to the underside of the structural deck. Third, the walls of the vault are constructed of gypsum wallboard on metal studs per Underwriters Laboratory Test Number U412, assuring the equivalent of 2 hour fire resistive construction. This is equal construction to concrete block in terms of fire protection. The walls carry no structural load; hence, they provide equivalent structural integrity to that needed of concrete block.[1]

Response/Reason

Item b

Again, the vault is contained within an environmentally protected building. As such it has no roof, or need for floor drain.[1]

[1]These responses have been forwarded to the NRC by the BG&E letter dated 02/11/83 from Robert G. Nichols, Sr. Facilities Project Administrator, Real Estate and Office Services Department, to Terry L. Harpster, Chief QA Branch, Division of QA, Safeguards and Inspection Programs, IE, USNRC. These responses have also been excepted by the NRC in their letter dated 04/22/83 from Walter P. Haass, Deputy Chief, QA Branch, Division of Quality Assurance, Safeguards, and Inspections Programs, Office of Inspection and Enforcement.

ADD THE FOLLOWING TO:

ANSI N45.2.23 - 1978

Item 1

2.6 Time exclusively spent for training does not apply as credit toward experience requirements for lead auditors.

EVALUATION OF PROPOSED CHANGE TO THE QA POLICY

As required by 10 CFR 50.54, PRF-Q No. 550 (QA Policy) has been reviewed to determine if the proposed changes would reduce BG&E's commitments described in the QA Policy (FSAR Section 1B).

PRF-Q No. 550 does not reduce BG&E's commitments described in the QA Policy because:

1. Referenced changes are clarification of exceptions taken in the Policy Statement (Requested by NRC).

2. Add a requirement that computer programs used in design are subject to design controls and program verification.

Evaluation performed by: _____ Date: 4/26/84

Evaluation reviewed by: _____ Date: 4/26/84