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MFN 06-224
Supplement 3

Docket No. 52-010

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U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555-0001

Subject: Reply to NRC Inspection Report 05200010/2006-201 and Notice of Nonconformance (Supplement 3) - Request for Topical Reports

In the Reference 1 letter, the NRC indicated that GE's responses to the subject Notice of Nonconformance were responsive and also requested that GE provide the following topical reports:

- Revision 2 of NEDO-33181, "NP-2010 COL Demonstration Project Quality Assurance Plan," and
- The latest revision of NEDC-33260, "NP-2010 COL Demonstration Project SQAR – ESBWR QA Requirements for Procurement of Engineering Services and Equipment."

Revision 2 of NEDO-33181 was provided in the Reference 2 letter. NEDC-33260 has been reformatted as a non proprietary report (NEDO-33260, Revision 2) and is contained in Enclosure 1.

If you have any questions or require additional information regarding the information provided here, please contact me.

Sincerely,

Kathy Sedney for

James C. Kinsey
Project Manager, ESBWR Licensing

D068

References:

1. MFN 06-439, Letter from U.S. Nuclear Regulatory Commission to David H. Hinds, *General Electric Nuclear Energy (GE) Response to U.S. Nuclear Regulatory Commission (NRC) Inspection Report 05200010/2006-201 and Notice of Nonconformance (NON)*, October 30, 2006
2. MFN 06-224, Supplement 2, Letter from David H. Hinds to U.S. Nuclear Regulatory Commission, *Reply to NRC Inspection Report 05200010/2006-201 and Notice of Nonconformance (Supplement 2) - Request for Topical Reports,* November 29, 2006

Enclosure:

1. MFN 06-224, Supplement 3 - NEDO-33260, Revision 2, "NP-2010 COL Demonstration Project SQAR – ESBWR QA Requirements for Procurement of Engineering Services and Equipment," January 2007

cc:

AE Cubbage	USNRC (with enclosures)
DH Hinds	GE (with enclosures)
RE Brown	GE (w/o enclosures)
eDRF	0000-0049-6867

Enclosure 1

MFN 06-224, Supplement 3

NEDO-33260, Revision 2
January, 2007

NP-2010 COL Demonstration Project

SQAR – ESBWR QA Requirements for Procurement of Engineering Services and Equipment

GE Energy

Nuclear

3901 Castle Hayne Rd
Wilmington, NC 28401

NEDO-33260
Revision 2
Class I
DRF 0000-0049-6867

JANUARY 2007

NP-2010 COL DEMONSTRATION PROJECT

SQAR – ESBWR QA REQUIREMENTS FOR PROCUREMENT OF ENGINEERING SERVICES AND EQUIPMENT

Prepared for:

Dominion Nuclear North Anna, LLC
Contract: DE-FC07-05ID14635

NuStart Energy Development, LLC
Contract: DE-FC07-05ID14636

Approved by:

D. Hinds
Manager, New Units Engineering

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Project Manager – Dominion

IMPORTANT NOTICE REGARDING CONTENTS OF THIS REPORT
Please Read Carefully

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Acknowledgement

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APPENDIX

Foreword

The Supplier Quality Assurance Requirements (SQAR) defines relationships, responsibilities, and requirements for the Supplier's quality program, for documenting results of the quality activities conducted under this program, and for General Electric Nuclear Energy, hereafter referred to as Buyer, and Buyer's Customer activities needed to verify the quality of work and/or engineering services. This SQAR does not supersede any requirements of the Contract/Purchase Order. If the Supplier believes that an inconsistency exists between this document and the specification(s) and referenced codes and standards, the Supplier shall immediately notify the Buyer for resolution.

Definitions

Basic Component

When applied to nuclear power reactors means a plant structure, system or component necessary to assure (a) the integrity of the reactor coolant pressure boundary; (b) the capability to shut down the reactor and maintain it in a safe shutdown condition; or (c) the capability to prevent or mitigate the consequences of accidents.

Defect

A deviation in a basic component delivered to a purchaser for use in a facility or an activity subject to the NRC regulations if, on the basis of evaluation, the deviation could create a substantial safety hazard.

Deviation

A departure from technical requirements included in a procurement document.

EPI (ESBWR Project Instruction)

EPIs transform the requirements of established company Quality Assurance Program (QAP) procedures into practical instructions with a minimum of repetition. The EPIs provide directions beyond the scope or detail of the QAP procedures or as supplemental guidance in processes that have experienced performance defects, or processes that present a special risk of performance defects. EPI 00-01, EPI Administration and Control, defines the appropriate process to identify needed instructions, to create and control instructions and to seek interpretation of the instructions.

Noncompliance

Failure to comply with the Atomic Energy act of 1954, as amended, or any applicable rule, regulation, order or license of the NRC relating to substantial safety hazards.

Material Organization (metallic) (MO)

An organization accredited by holding a Quality System Certificate (QSC) issued by ASME or qualified by an accredited material organization in accordance with ASME Section III NCA-3800.

Substantial Safety Hazard

A loss of safety function to the extent that there is a major reduction in the degree of protection provided to public radiological health and safety.

1 Quality Classifications

The ESBWR Project uses the quality classifications Q, N, and S as defined below. This is a classification system used to identify structures, systems, components, parts, and technical services.

1.1 Quality Class Q (Safety Related)

Safety Related structures, systems, components, and parts provide safety-related functions necessary to assure:

a. The integrity of the reactor coolant pressure boundary; or

b. The capability to shut down the reactor and maintain it in a safe shutdown condition; or

c. The capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposures comparable to 10CFR50.34(a)(1) or 10CFR100.11 guideline exposures, as applicable

Basic components are items designed and manufactured under a quality assurance program complying with 10 CFR Part 50, appendix B, or commercial grade items which have successfully completed the dedication process.

When applied to other facilities and when applied to other activities licensed pursuant to 10 CFR Parts 30, 40, 50 (other than nuclear power plants), 60, 61, 63, 70, 71, or 72 of this chapter, basic component means a structure, system, or component, or part thereof that affects their safety function, that is directly procured by the licensee of a facility or activity subject to the regulations in this part and in which a defect or failure to comply with any applicable regulation in this chapter, order, or license issued by the Commission could create a substantial safety hazard.

In all cases, basic component includes safety-related design, analysis, inspection, testing, fabrication, replacement of parts, or consulting services that are associated with the component hardware whether these services are performed by the component supplier or others.

1.1.1 Commercial Grade Item

When applied to nuclear power plants licensed pursuant to 10 CFR Part 30, 40, 50, 60, commercial grade item means a structure, system, or component, or part thereof that affects its safety function, that was not designed and manufactured as a basic component. Commercial grade items do not include items where the design and manufacturing process require in-process inspections and verifications to ensure that defects or failures to comply are identified and corrected (i.e., one or more critical characteristics of the item cannot be verified).

When applied to facilities and activities licensed pursuant to 10 CFR Parts 30, 40, 50 (other than nuclear power plants), 60, 61, 63, 70, 71, or 72, commercial grade item means an item that is:

(i) Not subject to design or specification requirements that are unique to those facilities or activities;

(ii) Used in applications other than those facilities or activities; and

(iii) To be ordered from the manufacturer/supplier on the basis of specifications set forth in the manufacturer's published product description (for example, a catalog).

1.2 Quality Class N (Non-Safety Related)

Quality Class N is the classification of structures, systems, components, parts, and technical services, which do not meet the definition of Safety Related.

1.3 Quality Class S (Special)

Classification of structures, systems, components, parts, and technical services which do not meet the definition of Safety-Related, but are subject to special regulatory requirements (e.g., Seismic Category I equipment or a level of regulatory imposed Quality Assurance).

2 Quality Assurance Programs

2.1 Safety Related QA Programs

All work shall be performed in accordance with a QA Program audited and approved by the Buyer.

2.1.1 10CFR50 Appendix B Program

Safety-Related work shall be performed in accordance with the applicable provisions of the Supplier's 10CFR50 Appendix B QA Program, or alternate program approved by the Buyer.

2.1.2 ASME QA Program

The ASME Code Supplier and sub-tier suppliers shall each have and implement a Quality Assurance Program in compliance with ANSI/ASME NQA-1-1983 Edition with 1a-1983, Quality Assurance Program Requirements for Nuclear Facilities.

Special attention is required on Safety-Related ASME components, which contain individual parts, which by code definition are specifically exempt from code requirements. If these parts perform a Safety-Related function, they must be provided as Safety-Related in accordance with a QA Program accepted by the Buyer.

2.1.3 Commercial Grade Program

Dedicated commercial grade materials/parts for use as components in Safety-Related systems are not allowed unless the Supplier can provide sufficient evidence that the item(s) is not available from sources qualified to produce nuclear Safety-Related materials/parts, and can demonstrate the grade (i.e. quality and performance) of the item(s) to be used is equal to or higher than those produced by a qualified Safety-Related supplier. The Supplier shall also follow the following requirements:

a. The Buyer shall be notified and approval is required before the use of the component(s), which contains dedicated commercial grade materials/parts.

b. The dedication program of the item(s) shall be subject to Buyer review and concurrence prior to performing the dedication process.

c. The process for dedication of commercial grade items shall be in accordance with the guidelines contained in EPRI NP-5652, "Guideline for the Utilization of Commercial-Grade Items in Nuclear Safety-Related Applications (NCIG-07)" as conditional accepted and modified by NRC Generic Letter 89-02 and the additional guidance provided in NRC Generic Letter 91-05. The process should also take into account the requirements defined in 10CFR21.

d. The Supplier or its sub-tier who is to perform dedication process must obtain the Certificated Approval from the U. S. Nuclear Regulatory Commission in advance, by complying with Regulatory Procedures of the Dedication Agency.

2.1.4 Reporting of Significant Defects and Deficiencies that could cause a Significant Safety Hazard

The Supplier shall be responsible for the reporting of defects and deficiencies as defined in the United States Code of Federal Regulations Title 10 part 21, latest edition.

The Supplier shall provide to the Buyer any additional information related to a defect or failure to comply.

The Supplier shall ensure that each procurement document for a facility, or a basic component issued by him or her, specifies, when applicable, that the provisions of this section apply.

All written communications and reports concerning this requirement must be addressed to the Buyer as defined in the Contract/Purchase Order. The written report required by this section shall include, but need not be limited to, the following information, to the extent known:

a. Name and address of the individual or individuals informing the Buyer.

b. Identification of the activity or the basic component supplied which fails to comply or contains a defect.

c. Identification of the firm supplying the basic component, which fails to comply or contains a defect.

d. Nature of the defect or failure to comply and the safety hazard, which is created or could be created by such defect or failure to comply.

e. The date on which the information of such defect or failure to comply was obtained.

f. The corrective action, which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

g. Any advice related to the defect or failure to comply about the activity or basic component that has been, is being, or will be given to purchasers or licensees.

Note: Suppliers within the United States shall comply with the provisions of the Code of Federal Regulations Title 10 part 21 in its entirety, including posting requirements.

2.2 Other QA Programs

When imposed contractually, work shall be performed in accordance with a QA Program approved by the Buyer.

2.2.1 ISO 9001 Program

The Supplier and sub-tier suppliers shall each have and implement a Quality Assurance Program conforming to applicable sections and elements of the International Standard on Quality Systems ISO-9001/2000 Edition Quality Systems-Model for Quality Assurance in Design/Development, Production, Installation and Servicing, other regulatory standards and/or Buyer's quality requirements, to an extent consistent with the work.

3 Quality Assurance Plans

The Supplier shall prepare one or more Quality Assurance Plans for any equipment that is in Supplier's scope, when stipulated in the Contract/Purchase Order. These Quality Assurance Plans shall be submitted and approved by the Buyer prior to start of fabrication activities and shall be revised, if necessary, to reflect Buyer's comments. Each Quality Assurance Plan shall describe how the Supplier's Quality Assurance Program will be applied to the ESBWR Project for each applicable quality classification and shall address all requirements defined by the Contract/Purchase Order.

Quality Plans shall also contain the following as a minimum:

a. Scope of work

b. List of Procedures for special processes

c. Schedules of key activities

d. Inspection and test plan with witness and hold points specified by the Buyer in the Notification List as well as Supplier recommended witness and hold points.

e. Procedure for scheduling and notification of witness and hold points

f. List of Inspection and test procedures

g. Specification(s) and/or drawing(s) for structures, systems and identifying quality plan boundaries

3.1 Inspection and Test Plans / Witness and Hold Points

The Supplier shall submit to the Buyer for approval, inspection and test plans for the components and/or systems in their work scope. The inspection and test plans shall identify frequency of each inspection/test, sequences of inspection/tests, quality characteristics to be inspected/tested/examined, procedures to be used for each inspection test or special process, methods of inspection/test/examination, and accept/reject criteria. The supplier shall also include on the inspection and test plans the Buyer requested and supplier recommended witness and/or hold points for the Buyer. Each Witness/Hold point should have a unique identification number assigned to it.

The Buyer and Buyer's Customer will review the inspection and test plans and may designate additional witness and/or hold points on the plan. Prior to submittal of inspection and test plans for Buyer approval, the Buyer's responsible engineer and/or quality representative may participate in planning with the Supplier to establish the witness and/or hold point notifications. Witness and/or hold point notifications as agreed to by the Buyer and Supplier will be indicated on the

inspection and test plans. Should any quality problems develop during fabrication, the witness and/or hold points may be revised as required to assure Supplier compliance to contractual technical and quality assurance requirements.

A witness point is an important step in manufacturing where the Supplier is obligated to notify the Buyer in advance of the operation performed, so that it may be witnessed. If the Buyer is not present at the time and date specified by the Supplier, the Supplier may proceed. The Buyer may verbally waive the witness point.

A hold point is a designated stopping place during or following a specific activity at which the Buyer's inspection or witness is required before further work can be performed. The Supplier may not proceed beyond the Hold Point without inspection or witness by the Buyer, unless:

- Prior written authorization is obtained from the Buyer or,
- It is 48 hours after the scheduled time and date of a properly scheduled and notified Hold Point, and the buyer is not in attendance. The Buyer may ask for a delay and reschedule with at least 24 hours notice in advance of the scheduled time and date.

The Buyer may waive the witness of events. Waivers for Hold Points will be in writing. Waivers in no way absolve or relieve Supplier of complying with contractual requirements. Except for final release, the Supplier is not required to delay Hold Point events should the Buyer's Quality personnel not appear within 48 hours after the notified time, unless the Buyer specifically requests a delay and reschedule at least 24 hours in advance of the scheduled event.

Should the Supplier or Supplier's sub-tier supplier fail to provide proper and timely notification, the Buyer may require the Supplier or the sub-tier supplier to redo/re-perform the event scheduled for witnessing or inspection.

Unless contractually advised otherwise, for each witness and hold point identified by the Buyer, the Supplier shall provide 40 days advanced planning notification, 10 days Final notification and 72 hours confirmation of the scheduled event (excluding Saturday, Sunday and Holidays).

4 Contract/Purchase Order Requirements

The list of technical, quality and administrative requirements are shown as an Attachment T to the purchase order or included in the Buyer's Contract/Purchase Order.

4.1 Control of Services

4.1.1 Control of Design Services

Design services including computer software; shall be controlled in accordance with the requirements of United States Code of Federal Regulations Title 10 part 50, Appendix B, criterion 3 and ASME NQA-1-1983, supplement 3S-1.

4.1.1.1 Design Change Control

The Supplier shall be responsible for implementing the requirements of EPI 20-15, Engineering Change Control Process, which defines the design change control process for the ESBWR Project.

4.1.2 Control of Testing Services

Testing services shall be controlled in accordance with the requirements of United States Code of Federal Regulations Title 10 part 50, Appendix B, criterion 11 and ASME NQA-1-1983, supplement 11S-1.

4.1.3 Control of Computer Software Testing

Computer software services shall be controlled in accordance with the requirements of ASME NQA-2a-1990 part 2.7 for computer software used to produce or manipulate data, which is used directly in the design, analysis, and operation of structures, systems, and components. The application of specific requirements shall be prescribed in plan(s) for software quality assurance and in written policies and procedures.

4.1.3.1 Buyer Supplied Software

Suppliers using Buyer supplied software shall document and report to the Responsible Engineer identified on the purchase document, any problems, errors or discrepancies found in the software.

4.1.4 Control of Information Between Organizations

The Purchase Order and its relative revisions are the only applicable documents to control the design bases and other requirements necessary to assure adequate quality, and shall be included or referenced in documents for procurement or items or services.

Task input and output documents shall be identified by document identity, revision and status.

Documents may be transported as hard-copy or electronic files, as directed by the ESBWR Information Management Plan or Purchase Order. Electronic transmittal may be in the form of CDRom/DVDRom or as a file transferred by network connection through services such as ProjectNet, Documentum eRoom, Documentum Web-Top, or other collaboration or document management tools. File identification by document identity, revision and status shall be maintained during transport.

The Supplier shall be responsible for implementing the requirements of EPI 20-01, Project Communications, which governs ESBWR Project communications between the Buyer and Supplier organizations. It applies to all electronic and hard copy correspondence related to ESBWR commitments.

4.2 Control of Sub-tier Suppliers

The requirements of this SQAR shall be passed on to all relative organizations within the Supplier and the sub-tier suppliers. Supplier shall ensure that all sub-tier suppliers comply with Buyer's Contract/Purchase Order requirements.

4.3 Personnel Training and Qualifications

In addition to the training and qualification requirements of personnel as established in the Supplier's QA program, the following shall also be accomplished:

a. The Supplier shall assure that all personnel of the Supplier and sub-tier suppliers performing work for this project are indoctrinated in the appropriate requirements of this SQAR, identified EPIs and other documents specified in the Buyer's Contract/Purchase Order. Records of indoctrination shall be maintained in accordance with the Supplier's QA Program.

b. For Suppliers of Class Q and ASME Code Items, the Supplier shall establish measures to verify that qualification and certification of all Supplier's and sub-tier's inspection and nondestructive examination personnel satisfy the requirements of the American Society for Nondestructive Testing Recommended Practice No. SNT-TC-1A 1992 [per ASME Section III, 2001 Edition, NX-5500]. For Quality Class N and S items, a Buyer approved equivalent standard may be used.

c. All personnel training and qualification certifications shall be subject to review, surveillance, inspection, and audit by Buyer and Buyer's Customer.

d. Lead Auditors shall be certified per ANSI/NQA-1a-1983, supplement 2S-3 and Appendix 2A-3.

e. Inspection and Test personnel shall be certified per ANSI/NQA-1-1983, supplement 2S-1 and Appendix 2A-1 as endorsed by US NRC Regulatory Guide 1.28 Rev. 3.

4.4 Document and Record Quality Requirements

All records should be submitted electronically as defined in the ESBWR Information Management Plan and as defined in the Purchase Order or Contract terms and conditions.

The Supplier shall be responsible for implementing the requirements of EPI 20-02, In-Process Document Control, which defines the process for handling in-process document drafts prior to issuance.

When non-electronic documents are permitted by Buyer, the following are the minimum quality requirements for the Supplier's and sub-tier supplier's non-electronic documents to be submitted to the Buyer in the form of a reproducible, such as drawings, diagrams, parts lists, bill of materials, procedures, specifications, calculations, instruction manuals, performance curves, test reports etc. for Buyer's information and approval as defined in the Contract/Purchase Order or attachments thereto.

a. All documents submitted to the Buyer shall be in Standard English.

b. Documents prepared for the Buyer shall be free from defects (ink marks, copy marks, misalignment, etc.)

c. All submitted drawings or data of non-electronic type must be of sufficiently high quality as to permit scanning into ASCII files and/or microfilming and adequate reproduction of said microfilm by the Buyer. It is preferable that originals be submitted when possible. If reproductions of originals are submitted, they must be full size, black line direct-reading prints. A reproduction must be of original quality having sharp, black, clean well-defined lines with a line density equal to or better than the original. The lettering must be large and of an open style permitting reductions up to 30X and blowback at 14.5X and remain open with no plugging or loss of legibility. The reproduction must maintain an evenly high contrast between image and background over the surface of the document. Reproductions with low contrast or heavy background density with thin, weak lines and lettering are not acceptable and will be returned to the Supplier for upgrading and redrafting at the Supplier's expense.

d. All 8.5"X11" documents shall be shipped flat (unfolded) with ship-board (or equivalent) protectors on top and bottom of the package as necessary.

Supplier's documents received at any time that do not meet the above quality requirements will be returned to the Supplier for correction and re-submittal to the Buyer. Documents so returned to the Buyer shall contain the appropriate

approved technical content. Buyer shall not be responsible for any delays in equipment or document schedules because of the return of documents for quality corrections. The Supplier shall not be relieved of his document submittal requirements until all such requirements therein, including quality, have been satisfied.

4.5 Required Document Submittals

All procedures, drawings and/or other submittals when required for approval and/or information by the Buyer will be identified on the Contract/Purchase Order, or as a document submittal list provided as Attachment A. Buyer and Supplier may change this list of document submittals during the term of the Contract/Purchase Order as agreed to with such change incorporated as a revision to the Contract/Purchase Order.

All procedures and items specified in the list of document submittals, which will be used by the Supplier or sub-tier suppliers, shall be submitted to the Buyer for review and approval prior to the use of the procedure. Supplier shall indicate acceptance of sub-tier supplier documents prior to submittal to the Buyer for review. Sufficient time shall be allowed for the Buyer to review documents and submit comments for incorporation without impacting the supplier's schedule. Procedure shall represent actual practice and shall be in sufficient detail to define the critical parameters for the process involved.

The Supplier shall provide the Buyer with a list of document submittals being provided to the Supplier by sub-tier suppliers that relate to Supplier's work defined on the Contract/Purchase Order. As Buyer and Supplier agree, specific documents for the Supplier's sub-tier supplier shall be included on the list of document submittals to Buyer. In the case when the fabricator is a direct subsidiary of the Supplier, then the fabricator's documents shall be submitted to satisfy the submittal requirements. In addition to the submittals required by the list of document submittals, the Supplier shall provide to the extent possible copies to the Buyer of such additional submittals from sub-tier suppliers as Buyer may request. These additional sub-tier supplier documents may be submitted to the Buyer in the language as received by the Supplier.

Consistent with the list of document submittals, additional detailed information such as schedule, number of copies, document numbers and revision level shall be developed and submitted to the Buyer for information or approval. The contents of this submittal may be changed without revising the Contract/Purchase Order as long as the list of documents remains consistent with the list of document submittals.

A reusable document is a Supplier document, which has been approved by the Buyer for one purchase package and, by mutual agreement, may be used to fulfill without change, a document required on another purchase package. Such reusable documents shall be identified on the list of document submittals.

Approval by the Buyer of Supplier's or sub-tier supplier's document does not relieve the Supplier of his responsibility to provide design, material and equipment, which will fulfill the requirements of the Contract/Purchase Order.

Unless authorized by the Buyer and/or specifically controlled by Supplier's QA Program, fabrication and/or work affected by a document subject to Buyer's approval shall not be started until the applicable procedures, drawings or design data have been approved or approved with comment by Buyer. If the Supplier proceeds with work affected by a document subject to Buyer's approval prior to obtaining Buyer's approval, this work shall be at the Supplier's risk. Concurrence by Supplier with Buyer's comments is required if Supplier proceeds with the work involving documents approved with comment. In this event, Supplier must promptly submit revised documents incorporating all comments, and the work and resulting records must reflect compliance with the comments. Revised areas should be clearly identified by a revision symbol at the change location or noted on a tabulation sheet attached to the document. In no event shall the Buyer's comments change the Contract/Purchase Order requirements, including scheduled delivery dates.

4.6 Nonconformance and Disposition of Supplier Deviations

All non-conformances to the Buyer's technical requirements with the disposition of "Repair" or "Use As Is" shall be submitted to the Buyer for review and approval. The Supplier shall be responsible for resolution of the Buyer's comments, if any, prior to implementation. The Buyer's technical requirements are those specified in the Contract/Purchase Order (including Codes and Standards) and the Supplier specifications, drawings, and documents that require Buyer's approval.

A deviation is defined as any nonconformance to Buyer's technical requirements, which will not or cannot be corrected to fully comply with specified requirements. All deviations shall be documented on the Buyer's Deviation Disposition Request (DDR) form for review and disposition.

DDRs are used to disposition a non-conformance on a one-time basis. The Supplier using the form and following the instructions included in Appendix A of this document shall prepare the DDR.

Buyer shall approve or disapprove Supplier's proposed disposition, or provide an alternate disposition, stating any necessary action to bring the part to an acceptable condition.

Where the DDR disposition is "disapproved," the hardware shall not be used unless it is returned to a compliant condition or to an alternate acceptable condition as defined by the disposition statement(s).

Where the DDR disposition is "other," action taken to meet an acceptable condition shall be as specified in the disposition statement(s).

Normally, the Buyer will return a copy of the DDR disposition to the Supplier. However, if verification of work on the product, caused by the disposition of the DDR is required, the original of the DDR will be returned to the Supplier for verification signatures. The verified original DDR shall be returned to the Buyer. A copy of the completed DDR will be returned to Supplier.

Buyer's response to a deviation request shall be only as authorized by the signature of the Buyer's procurement, technical and/or quality representative. Such authorization shall be to accept deviation(s) with provisions as submitted; to accept deviations subject to Buyer's authorized conditions; or to disapprove the deviation request.

Further fabrication operations, after the detection of the deviation and prior to Buyer's decision on the DDR, shall be at Supplier's risk.

Application of ASME Code Cases or Interpretations not listed in Buyer's technical specifications requires Buyer's approval by use of the DDR or Contract/Purchase Order change.

4.7 Supplier Change Requests (SCR)

The Supplier shall not deviate from the technical and quality requirements without Buyer's approval. Technical and quality requirements are defined as follows:

a. The list of technical, quality and administrative requirements are shown as an Attachment T or included in the Buyer's Contract/Purchase Order.

b. All applicable codes and standards invoked by the documents specified in Attachment T or the Buyer's Contract/Purchase Order.

c. Supplier generated documents, which have been approved without comments by the Buyer.

Any exception, deviation, or change to the Buyer's technical and quality assurance requirements, codes and standards specified in the Contract/Purchase Order proposed by the Supplier shall be documented on the Buyer's Supplier Change Request form (SCR) and submitted to the Buyer for review and approval prior to implementation of the change requested.

The Supplier shall use the form and instructions included in Appendix B of this document for preparing the SCR.

The Supplier shall not proceed with actions proposed in the SCR until approved by the Buyer. In the event the Supplier proceeds without Buyer's approval, all costs incurred are to the Supplier's account.

If the Buyer approves the SCR, a copy of the approved SCR will be returned to the Supplier. If the change affects Buyer's documents, the documents will be revised and incorporated by revision to the Contract/Purchase Order.

If the Change affects Supplier's documents, the Supplier upon receipt of the approved SCR shall revise such documents and submit them for Buyer's approval.

4.8 Surveillance and Audits

Supplier and sub-tier suppliers shall grant to Buyer, Buyer's Customer, and/or appropriate Regulatory Body representatives access to facilities for the purposes of reviewing status and completion progress of the Contract/Purchase Order work scope, manufacturing records (including Supplier's un-priced Contract/Purchase Orders), procedures, and quality records applicable to the work defined in the Contract/Purchase Order. This shall include the option to witness, check or audit all phases of Supplier's operation (including tests and inspections) as it pertains to the work on order. Supplier shall assure the same access to sub-tier supplier's facilities and operations.

The Supplier shall assure that their Buyer approved Quality Assurance Program is audited annually to determine the continued acceptability of the Suppliers QA Program, or evaluated annually to determine if an audit is required during the upcoming year. When an evaluation is performed, the results are documented and approved by responsible QA personnel. This evaluation considers pertinent factors such as: the results of previous audits; history of performance of product and/or purchased service; effectiveness of implementation of suppliers QA Program; and the importance, complexity, and quality requirements of the item or service concerned. Active suppliers of Safety-Related items shall be audited at least every three years or at least once within the life of activity. Non-Safety related components that are procured as catalog items may be exempt from this requirement with prior approval from the Buyer.

Supplier shall correct in a timely fashion any program and/or product inadequacies noted by the Buyer's or Buyer's customer representative's auditors.

Internal and external audits shall be conducted in accordance with ANSI/NQA-1a-1983, supplement 18S-1 as endorsed by US NRC Regulatory Guide 1.28 Rev. 3.

4.9 Required Quality Records

Deliverable quality records, required by Buyer, are specified either in the Contract/Purchase Order, or in the Quality Records List (QRL) identified in the Contract/Purchase Order and transmitted to Supplier as part of the Contract/Purchase Order. The submittal of QA records shall be one (1) hard copy as well as one (1) microfilm or electronic form in Adobe Acrobat .pdf format or TIFF format.

For Quality Class Q (Safety Related Items) the QA records, which furnish documentary evidence of the quality of items and of activities affecting quality shall include at least all the applicable generic record types as required in the Table 1 of the U.S. Regulatory Guide 1.28. The QA records specified in the

regulatory guide are not intended to be all inclusive, and therefore the Supplier is responsible to assure that sufficient QA records are maintained to furnish evidence of quality of items and activities within his scope of work.

The Supplier shall develop and submit a detailed list of QA records, by component/equipment bases, which correspond to the adopted regulatory guide for his scope of work to the Buyer for review and concurrence. This list shall include a retention period, which is recommended in Table 1 of U.S. Regulatory Guide 1.28. For those QA records not submitted to the Buyer, i.e. considered by the Supplier as proprietary, the Supplier shall mark on the list and be responsible for preservation. No such records shall be destroyed or otherwise disposed of without the Buyer's concurrence or sending a copy of such records to the Buyer. When requested by the Buyer, the Supplier shall allow access to the Supplier's proprietary QA records or send a copy of such records to the Buyer.

Quality Records shall contain, as applicable, the following types of information:

a. Buyer's Contract/Purchase Order number, item number and revision utilized.

b. Product identification (name, Buyer's drawing number, equipment package number, or catalog number).

c. Part serial number, heat number, date codes.

d. The Supplier's number of the procedure (including revision level or date of issue), which was approved for use by the Buyer.

e. Test/inspection/examination type and date of performance.

f. Inspection/test/examination results (as required in the Contract/Purchase Order).

g. Identity of inspector/tester/examiner that performed the operation.

Nondestructive examination reports shall indicate the qualification level of the examiner and/or the evaluator.

Heat treatment records shall include, as a minimum, temperatures, holding time and cooling media and other information as specified.

As records are completed during the course of work, or when required records are generated by the Supplier's sub-tier supplier, the Supplier shall review them for conformance to requirements and note approval on the face of the records prior to submitting them to the Buyer for review and acceptance.

4.9.1 Radiographs

Radiographs, if required, are a quality record and are subject to review by Buyer's quality representative for identification, radiographic quality, quality of the object

and for actions taken as a result of radiographic interpretations. Radiographic Reader Sheets and the Radiographic Shooting Sketch are to be included in both the Radiographs Package and the Quality Records Package.

Supplier shall interpret radiographs prior to presentation to Buyer's quality representative for his evaluation. This includes radiographs made by Supplier and sub-tier suppliers.

The final set of radiographs shall be processed with archival quality, i.e. the potential for preserving the radiographic image for forty years.

4.9.2 Material Certifications

Supplier shall obtain and keep on file certificates of chemical analysis and mechanical properties, including results of all other tests required by the applicable ASME, ASTM or Buyer specification for all materials. Each item on the certification is to be marked for identification as to component, part, and project for which the material will be used.

ASME Code welding materials shall be tested and certified in accordance with NX-2400 of ASME Code Section III. Other welding materials shall be tested and certified in accordance with AWS A5.01. Supplier shall obtain certificates of weld metal analysis for each heat of covered electrodes and bare wire.

When required, material certification shall identify the material standard(s) /specification(s) used, and identify the grade, class, heat number and heat-treat condition as applicable. For Code materials, the Certified Material Test Report (CMTR) shall be prepared in accordance with NX-2130 of ASME Code Section III. The material manufacturer or material supplier's Quality System Certificate number and expiration date shall be identified on the CMTR or Certificate of Compliance.

For Quality Class Q items, one copy of all material certifications, including welding materials, shall be submitted to the Buyer for review as soon as Supplier accepts material, but prior to release for fabrication. All material certifications and tests, which have been reviewed and are acceptable shall be stamped or signed by Buyer's quality representative. Copies of the Buyer's accepted certifications are to be submitted as QA Records.

4.9.3 Binders or Packages of Deliverable Quality Records

If the Product Quality Certificate (PQC - see 4.10) is the only deliverable quality record required by the Contract/Purchase Order it need not be bound in a binder.

Quality records for a single component/part, where only a few records are required, need not be transmitted in a binder. Such records shall be compiled into a records package with an index listing all records. Each page shall be numbered sequentially.

When quality records are required for delivery for more than one component/part or for an assembly of parts, the documents shall be bound in a standard stiff pressboard binder, sized for 8-1/2" x 11" paper. Binders shall contain a table of contents listing for each component/part. A divider sheet, tabbed to identify the component/part, may separate documents for each component/part. All PQCs may be grouped under one tab. Each page shall be numbered sequentially.

4.9.4 Presentation and Release of Quality Records

For items source inspected, the quality records specified in the Contract/Purchase Order shall be presented to the Buyer's quality representative for review and acceptance prior to release of product for shipment. Each document and table of contents shall bear evidence of Buyer's quality representative's acceptance. If the records do not comply with contractual requirements, the product shall not be released until satisfactory records are presented.

For each shipment released to the Buyer's facilities, the Supplier shall forward one set of the quality records package(s) with the hardware, unless otherwise specified in the Contract/Purchase Order.

For each shipment, the Supplier shall forward within two weeks:

a. Two sets of Quality Records, one that includes Radiographs if applicable, to the Buyer as specified in the Contract/Purchase Order.

b. The Buyer will then, after review and acceptance, forward one copy of the records to Buyer's Customer.

4.10 Certification and Release for Shipment

Prior to release for shipment, the Supplier shall perform a final inspection of the product to verify compliance with all Contract/Purchase Order requirements, and also verify the adequacy of the documented evidence of this inspection.

A Product Quality Certificate (PQC) is required for all safety-related equipment. The Supplier shall complete and process a PQC using the form and following the instructions included in the Contract/Purchase Order.

For source inspected items, the Buyer's PQC form (or a Buyer approved equivalent) requires the Supplier's and Buyer's Quality Representative's signatures of acceptance on the form. If the Buyer's Customer representative is present for final release he/she will sign the PQC in the appropriate block. If the representative is not present for the final release, N/A should be included in the signature block.

For all items not requiring source inspection by Buyer's Quality Representative, Supplier shall use the Buyer's PQC (or a Buyer approved equivalent) but will require the Supplier's QC signature only.

If all items required for Contract/Purchase Order are not included in a shipment, identify on the PQC only those items included in the shipment and indicate on the PQC "Partial Shipment." On the final PQC, state: "This completes the Contract/Purchase Order."

Supplier shall review the Product Quality Certificate for accuracy of content and freedom from errors.

It is IMPORTANT that a copy of the approved PQC accompany the product to its destination. One (1) copy of each approved Deviation Disposition Request (including attachments) listed on the Product Quality Certification shall be attached to the Product Quality Certificate and accompany the product to its destination.

4.11 Packaging, Identification and Marking

Prior to release for delivery to Buyer or Buyer's customer, the packaging for each part, stenciling shall mark component or assembly, stamping or marking by any suitable means not deleterious to the product. Marking or tagging of individual packages of like items at each packaging level is required. Hardware and/or software must be compatible and traceable to supporting documentation. (Certified material test reports, processing records, etc.)

Marking shall include, as a minimum, the following:

a. GE purchase order number and revision number

b. Purchase order item number

c. Item nomenclature

d. Item drawing number, part number (including revision level), and/or catalog number

e. Material traceability data (ingot/heat number, heat treat lot number, heat code, serial number, etc.)

f. Any other information as required by the Buyer's purchase order

Appendix A
DDR Form and Instructions for Completion

GENERAL ELECTRIC	**DEVIATION DISPOSITION REQUEST**
	1. SUPPLIER AND LOCATION

2. PART NAME		3. PART NUMBER	4. DATE INSPECTED
5. PRODUCT	6. MPL NUMBER	7. PROJECT	8. SUPPLIER JOB NO.

9. IDENTIFY DEVIATING ITEM:

10. DESCRIBE NONCONFORMANCE, PROPOSED DISPOSITION, AND ENGINEERING BASIS:

11. CAUSE OF DEVIATION, ACTION TAKEN TO PRECLUDE RECURRENCE, AND TIME AND POINT OF IMPLEMENTATION:

12. NO. OF SUPPLIER ATTACHMENTS:	13. GE QC REPRESENTATIVE (QCR) VALIDATION, OR HOW NOTIFIED: DATE	14 SUBMITTAL APPROVAL: DATE

15 GE DISPOSITION AND JUSTIFICATION:

APPROVED AS PROPOSED ☐
DISAPPROVED ☐
OTHER ☐
NO. OF GE ATTACHMENTS _____

16 DESIGN VERIFICATION STATEMENT OR WHERE FILED:

17. GE APPROVAL SIGNATURES	M/C	COMP	DATE
RESPONSIBLE ENGINEER (RE)			
RESPONSIBLE ENGINEER'S MGR			
LEAD SYSTEM ENGINEER (LSE)			
MATERIALS APPL ENGINEER (MAE)			
PROJECT MANAGER (PM)			
QC ENGINEER (QCE)			
BUYER			

18. FINAL DISTRIBUTION PQA MASTER FILE

PROCUREMENT QA ☐
SUPPLIER ☐
BUYER ☐
RE ☐
LSE ☐
MAE ☐
PM ☐
QCE ☐
QCR ☐
OTHERS:

19. OWNER APPROVAL:

	YES	NO
REQUIRED	☐	☐
OBTAINED	☐	☐

20. CHANGE CONTROL DOCUMENTS

ECN/ECA NO.

FDI NO.

OTHER

21. PO NUMBER/REVISION:

DDR NUMBER

22. SUPPLIER QC	DATE	GE QC REPRESENTATIVE	DATE

NEO-767 (6/26/96) (See following sheet for instructions)

DDR COMPLETION INSTRUCTIONS

Submit this form only if requirements of a Contract/Purchase Order have been deviated i.e. the DDR is to be prepared after the deviating condition exists.

Use Word Processor, Typewriter or black ink ballpoint pen.

ITEM NO.	INFORMATION REQUIRED
1.	Supplier's name and address.
2. and 3.	Name and identification number of detail part involved. Deviated material must be identified to the part in which it will be used
4.	Date supplier first detected the nonconformance.
5.	Name or description of the product being supplied, as stated on the Contract/Purchase Order (PO).
6.	The GE Master Parts List (MPL) number given on the CONTRACT/PO. List each MPL number involved in the request.
7.	Customer's project name and unit number as assigned by GE.
8.	Supplier's shop order/job number, if assigned.
9.	Identify deviating items: a. Identify applicable serial or unique heat/lot number of equipment and the quantity of each. b. State the document and revision that contains the requirement to be changed, and the section or paragraph number. c. If item has been designated to a specific project and/or is applicable to more than one MPL number and/or part, show this relationship.
10.	Describe nonconformance in "should have been" and "is" terms; propose a disposition giving specific details and engineering basis for the proposal. If of supplier's design, state the effect on reliability, inter- changeability, safety, maintainability, operability and integrity.
11.	For a serious or repetitive deviation, state the probable cause, actions projected/taken to correct the underlying cause, and when these actions will become effective.
12.	Enter number of supplier attachments to this DDR. Identify each page of attachments with the DDR document number. Sequentially number each page of the attachments.
13.	Signature and date of the GE Quality Control (QC) Representative validating the accuracy of the description of the nonconformance or if GE's QC Representative is not available, the means (telephone, Fax, etc.) and date of notification.
14.	Signature, title and date of supplier's QC Manager, Project Engineer or Project Manager.
15.	General Electric disposition will be given here.
16. - 20.	These blocks are for GE processing.
21.	Enter the number and latest revision of each GE CONTRACT/PO (one PO per DDR) affected by the DDR.
22.	Signatures of supplier's QC and the GE QC Representative attesting that any and all work, on the product required of supplier by the authorized disposition, has been acceptably accomplished.

The DDR number shall be added by the supplier in the format of DDR-XX.XXXX-YY where XX.XXXX is the last 6 digits of the GE purchase specification number and YY is a sequential number starting at 01. For purchase orders which have been split the format for the numbering shall be DDR-XX.XXXX.XX-YY where the additional .XX is used to differentiate between the split orders. The Buyer will instruct the Supplier when this alternate numbering format shall be used. The supplier shall keep track of sequential numbering via DDR log to avoid any duplication of numbers.

Supplier to forward original DDR to the GE Buyer, provide one copy to the GE QC Representative servicing supplier's plant, and retain a copy for supplier's records.

Normally a copy of the DDR will be returned to supplier with the GE disposition. However, if verification of work on the product, caused by the disposition of the DDR is required, the original will be returned for verification signatures. Verified original DDR must be returned to the Buyer.

The supplier shall enter the DDR number (and revision number, if any) of those dispositioned as "approved" or "other", in the DDR Number (Closure Date) block of the Product Quality Certificate (PQC). Attach a copy of the DDR to the PQC that accompanies the product to destination and place a copy in deliverable QA records. However, such reference and attachment shall not be made if subsequent changes applied by CONTRACT/PO revision eliminate the deviation.

NOTE: If implementing the disposition of this DDR will cause a price change, the supplier shall obtain Buyer's authorization prior to implementation.

Appendix B

Supplier Change Request (SCR) Form and Instructions for Completion

GENERAL ELECTRIC	*SUPPLIER CHANGE REQUEST*

1. SUPPLIER AND LOCATION		2. SUPPLIER JOB NO.
3. PRODUCT	4. PROJECT	5. MPL NO.

6. IDENTIFY REQUESTED CHANGE:

7. PROVIDE BASIS FOR CHANGE REQUEST ALONG WITH BENEFITS AND/OR IMPACT TO GE:

8. NO. OF SUPPLIER ATTACHMENTS	9. GE PO NUMBER/REVISION:	10. SUPPLIER APPROVAL	DATE

11. GE DISPOSITION AND JUSTIFICATION:

APPROVED AS PROPOSED ☐
DISAPPROVED ☐
OTHER ☐
FDI NO. _____
NO. OF GE ATTACHMENTS _____

12. DESIGN VERIFICATION OR WHERE FILED:

13. OWNER APPROVAL:

	YES	NO
REQUIRED	☐	☐
OBTAINED	☐	☐

14. GE APPROVAL SIGNATURES	M/C	COMP	DATE
RESPONSIBLE ENGINEER (RE)			
PROJECT MANAGER (PM)			
PROCUREMENT (PCMT) QC			
BUYER			

15. FINAL DISTRIBUTION

PROCUREMENT QA ☐
SELLER (Thru Buyer) ☐
BUYER ☐
RE ☐
PM ☐
QC ENGINEER ☐
QC REPRESENTATIVE ☐
OTHERS:

16. CHANGE CONTROL DOCUMENTS

ECN/ECA NO:

VPF NO:

OTHER:

SCR NUMBER

S -

NEO-766 (6/26/96) (See following sheet for instructions)

SCR COMPLETION INSTRUCTIONS

If a change in design or QA requirements is desired, submit this form and obtain approval before proceeding or creating a deviation. Use word processor, typewriter or black ink ballpoint pen.

ITEM NO.	INFORMATION REQUIRED
1.	Supplier's name and address.
2.	Supplier's shop order/job number, if assigned.
3.	Name or description of the product being supplied, as stated on the Contract/Purchase Order (PO).
4.	Customer's project name and unit number, as assigned by GE.
5.	The GE Master Parts List (MPL) number, if given on the CONTRACT/PO. List each MPL number involved in the request.
6.	Identify the required change. a. Identify applicable serial or unique heat/lot number of equipment and the quantity of each. State the document and revision that contains the requirement to be changed, and the section or paragraph number. b. If item has been designated to a specific project and/or is applicable to more than one MPL number and/or part, show this relationship. c. State the proposed date or point of effectivity.
7.	Provide the basis, reason, or justification for the change. a. If of supplier's design, state the effect on reliability, interchangeability, safety, maintainability, operability and integrity. IDENTIFY THE BENEFITS ACCRUING TO GE IF THE PROPOSED CHANGE IS AUTHORIZED. SEE NOTE BELOW.
8.	Enter the number of supplier attachments to this SCR. Identify each page of attachments with the SCR document number. Sequentially number each page of the attachments.
9.	Enter the number and latest revision of each GE CONTRACT/PO affected by the SCR.
10.	Signature, title, and date of supplier's authorized designee, such as QC Manager, Project Engineer, or Project Manager.
11.	General Electric disposition will be given here.
12. - 15.	These blocks are for GE processing.
16.	Identify change control documents. a. Engineering Change Notices (ECNs) listed in this block are not required to be placed on CONTRACT/PO prior to release of product for shipment. b. Documents identified in this block by Vendor Print File (VPF) number must be revised and received/approved by GE, as appropriate, prior to release of product for shipment. c. Other documents listed must be placed on CONTRACT/PO, submitted, or issued, as appropriate to the document, prior to release of the product for shipment.

The SCR number shall be added by the supplier in the format of S-XX.XXXX-YY where XX.XXXX is the last 6 digits of the GE purchase specification number and YY is a sequential number starting at 01. For purchase orders which have been split the format for the numbering shall be S-XX.XXXX.XX-YY where the additional .XX is used to differentiate between the split orders. The Buyer will instruct the Supplier when this alternate numbering format shall be used. The supplier shall keep track of sequential numbering via SCR log to avoid any duplication of numbers.
The supplier is to forward the original SCR sheet to the GE Buyer, provide one copy to the GE QC Representative servicing supplier's plant, and retain a copy for supplier's records. Normally, a copy will be returned to the supplier with the GE disposition.

When requested, the supplier shall demonstrate to a GE representative that the change has been implemented at the specified point of effectivity.

Changes implemented as authorized by the SCR, must be incorporated by a CONTRACT/PO revision issued prior to release for shipment.

NOTE: IF IMPLEMENTING THE DISPOSITION OF THIS SCR WILL CAUSE A PRICE CHANGE, THE SUPPLIER SHALL OBTAIN BUYER'S AUTHORIZATION PRIOR TO IMPLEMENTING.