

INTERNAL CORRESPONDENCE

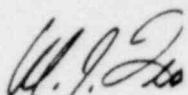
GA 1076

GILRAY J

VIA BUSK

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FROM


W. J. Leona

REPLY

DATE

WJL:18:80

TO

Holders of QA Manual

DATE

Sept. 30, 1980

SUBJECT

Revisions to GA Quality Assurance Manual

1. Attached are the following changes to the QA Manual:

<u>Document</u>	<u>Date/Rev.</u>	<u>Reason</u>
Table of Contents	9/30/80	Updated to include latest revisions.
QP-1 "Organization"	K	Incorporates the 3 amendments and reflects two organizational title changes (Page 1 and Exhibit 1-1).
ADDENDUM 1	G	Incorporates the 3 amendments.

2. Please insert the revisions in your Manual and discard the obsolete documents. Also, please sign the attached receipt card and return it as indicated on the card.

Thank you.

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GENERAL ATOMIC

EFFECTIVE DATE: September 30, 1980

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QUALITY ASSURANCE MANUAL

APPROVED

N/A

TITLE: TABLE OF CONTENTS

DIRECTOR, QUALITY ASSURANCE

EXECUTIVE VICE PRESIDENT

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-	Statement of Authority	L	3/20/80
1	Organization	K	9/30/80
2	Quality Assurance Program AMENDMENT 1 to QP-2, Rev. J AMENDMENT 2 to QP-2, Rev. J	J	3/12/80 3/20/80 7/3/80
3	Design Control AMENDMENT 1 to QP-3, Rev. P AMENDMENT 2 to QP-3, Rev. P	P	3/12/80 3/20/80 7/3/80
4	Procurement Document Control AMENDMENT 1 to QP-4, Rev. M AMENDMENT 2 to QP-4, Rev. M	M	3/12/80 3/20/80 7/3/80
5	Instructions, Procedures, and Drawings AMENDMENT 1 to QP-5, Rev. J	J	3/20/80 6/12/80
6	Document Control AMENDMENT 1 to QP-6, Rev. H	H	3/12/80 3/20/80
7	Control of Purchased Materials, Equipment, and Services AMENDMENT 1 to QP-7, Rev. I	I	3/12/80 3/20/80
8	Identification and Control of Materials, Parts, and Components AMENDMENT 1 to QP-8, Rev. I	I	3/12/80 3/20/80
9	Control of Special Processes	L	3/20/80
10	Inspection Program AMENDMENT 1 to QP-10, Rev. H	H	3/20/80 7/3/80
11	Test Control AMENDMENT 1 to QP-11, Rev. H AMENDMENT 2 to QP-11, Rev. H	H	3/12/80 3/20/80 7/3/80

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12	Control of Measuring and Test Equipment AMENDMENT 1 to QP-12, Rev. H	H	3/12/80 3/20/80
13	Handling, Storage, and Shipping	G	3/12/80
14	Inspection, Test and Operating Status	I	3/12/80
15	Control of Nonconforming Items AMENDMENT 1 to QP-15, Rev. I	I	3/12/80 3/20/80
16	Corrective Action	F	3/12/80
17	Quality Assurance Records AMENDMENT 1 to QP-17, Rev. J	J	3/20/80 7/3/80
18	Audits AMENDMENT 1 to QP-18, Rev. K	K	3/12/80 3/20/80
19	Authorized Nuclear Inspection AMENDMENT 1 to QP-19, Rev. I	I	3/12/80 3/20/80
20	Quality Assurance Training AMENDMENT 1 to QP-20, Rev. I	I	3/12/80 3/20/80
--	ADDENDUM 1, Terms & Definitions	G	9/30/80



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QUALITY PROCEDURE NO. 1
 REVISION: K
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QUALITY ASSURANCE MANUAL

TITLE ORGANIZATION

APPROVED

DIRECTOR, QUALITY ASSURANCE

EXECUTIVE VICE PRESIDENT

1.0 PURPOSE

This document identifies GA organizations and their relationships in the performance of activities affecting quality.

2.0 GENERAL REQUIREMENTS

2.1 General Organization

General Atomic Company (GA) is a partnership of Gulf Oil Corporation and Scallop Nuclear, Incorporated, with facilities located in San Diego, California.

2.2 Organizations Performing Activities Affecting Quality

Design, development, fabrication, testing, and inspection work subject to the requirements of this QA Manual is performed under the executive direction of the President, General Atomic Company.

2.2.1 The President, General Atomic Company has reporting to him, through Executive Vice Presidents, the following organizations which implement the QA Program:

- (a) HTGR Program Management
- (b) GCFR Program Management
- (c) General Program Management
- (d) Licensing
- (e) Purchasing
- (f) Program Planning & Scheduling
- (g) Contracts
- (h) HTGR Engineering
- (i) General Engineering
- (j) Fuel Operations
- (k) Applied Science

K

K

- (l) Fusion
- (m) Quality Assurance
- (n) Component Manufacturing
- (o) Fort St. Vrain
- (p) Nuclear Material Control
- (q) Process Engineering
- (r) Computer Services
- (s) Electronic Systems

2.2.2. The attached organization charts (Exhibits 1-1 and 1-2) show the relationships of organizational units of General Atomic covered by this manual. The organization is the "matrix" type, in which the program management organizations are supported by the resources organizations. More detailed organization charts are contained in the Company Organization Manual.

3.0 RESPONSIBILITIES

3.1 Responsibility as N Certificate Holder

- 3.1.1 General Atomic Company, as N Certificate Holder, is responsible for Code Compliance with respect to material, design, fabrication, installation, examination, testing, inspection, certification, and stamping for items requiring an N Symbol Stamp. General Atomic Company may subcontract for materials, design, fabrication, installation, examination, testing, and inspection; however, General Atomic shall retain overall responsibility including certification and stamping.
- 3.1.2 When General Atomic Company accepts overall responsibility for construction of Section III, Division 1 and 2 items, for which overall responsibility is retained and for which fabrication and installation of Section III, Division 1 items and fabrication and construction of Section III, Division 2 items is subcontracted to the appropriate certificate of authorization holders, General Atomic Company will indicate acceptance of the overall responsibility for Code compliance by providing appropriate data reports, certification, and stamping.

3.2 Responsibility for Design and Stress Analyses

- 3.2.1 Design work, and preparation of Design Reports as required by the ASME Code Section III, Division 1, and Design Documents as defined in Section III, Division 2, shall be performed under the direction of the cognizant engineering manager/director.
- 3.2.2 Verification of the adequacy of Design Reports, and evaluation of Construction Documents as defined in the ASME Code Section III, Division 2, prepared by others to satisfy the requirements of the Design Specification shall be performed under the direction of the cognizant engineering manager/director, per Exhibit 6-5 of QP-6.

3.3 Responsibility for Fabrication and Inspection of ASME Code Work

- 3.3.1 Fabrication work performed within General Atomic to the requirements of the ASME Code shall be performed under the direction of the Manager, Component Manufacturing. Inspection of such work will be performed under the direction of the Manager, Component Manufacturing Quality Control.
- 3.3.2 Fabrication by subcontractors shall be performed by fabricators with valid Certificates of Authorization for the type of work being performed in compliance with the ASME Code. Source inspection or inspection upon receipt at GA shall be performed as required to assure product quality.

3.4 Summary of Assigned Responsibilities

The responsibilities for performance of specific operations to implement the Quality Assurance Program are assigned in the individual Quality Procedures (QPs) contained in this manual. Assigned responsibilities within project and resources organizations shall be contained in their respective procedural documents. Customer-funded work authorized for performance within the company shall be communicated by Contracts to the appropriate project organization. The resources organizations, including Quality Assurance, provide the technical and operational support for the accomplishment of GA projects. Coordination and monitoring of services required by work under such authorized projects is performed by Contracts; similar activities related to GA-placed procurements are performed by Purchasing. All divisions involved in the work shall use the procedures and forms described in this manual. The quality of GA products/services shall be the responsibility of the organizational unit performing work on or affecting the product/service.

All personnel whose activities affect product quality have sufficient authority and freedom to identify quality problems; to initiate, recommend, or provide solutions; and Quality Assurance verifies implementation of solutions. A summary of the assigned responsibilities within Quality Assurance is as follows:

3.4.1 Director, Quality Assurance

The Director, Quality Assurance, is responsible for developing, directing, and implementing an effective quality assurance program. The prime role and responsibilities of the Director are to:

- (a) Establish policies and practices that implement the requirements of this manual.
- (b) Assure that procedures used within Quality Assurance implement the established policies and meet the requirements of applicable regulatory standards and result in a product or service that meets ASME Code and Customer quality requirements.
- (c) Cooperate with agencies performing audits of QA operations to assure conformance to, and the effectiveness of, the established policies and procedures.
- (d) Assure that personnel within QA are qualified for their assigned responsibilities, and establish such training as may be necessary to develop and maintain the required qualification.
- (e) Delegate authority within his organization to carry out its responsibilities, including authority to stop unsatisfactory work or to stop further processing of unsatisfactory material.
- (f) Provide periodic reports to management indicating results of audits, quality trends, and overall Quality Assurance performance.
- (g) Maintain direct interface with QA managers of Customers, Owners, and of Architects and Engineers. (May be delegated to the cognizant Senior Project Engineer-QA (SPE-QA).)

3.4.2 Manager, Quality Systems Department

The Manager, Quality Systems is responsible to the Director, Quality Assurance for establishing and managing functional organizations to design and implement quality systems; perform quality assurance operations for sub-contracted items and services; conduct audits; establish training programs; maintain quality assurance personnel qualification and certification records; publish and distribute the Quality Assurance Manual and Quality Division Instructions; maintain quality assurance records; maintain liaison with Customers on quality assurance matters; and provide and maintain support for the SPE-QAs for their assigned projects. As indicated in Exhibit 1-2, the following branches have been established to assist the Manager in the implementation of his responsibilities.

3.4.2.1 Quality Operations Branch

The Manager, Quality Operations Branch is responsible to the Manager, Quality Systems Department to accomplish the following:

- (a) Develop and monitor implementation of new or improved quality systems.
- (b) Process and control QA Division documents which implement the QA Program.
- (c) Manage the Quality Assurance Records Program.
- (d) Provide control of quality assurance and welders' stamps.
- (e) Perform source inspection, surveillance, and pre-award surveys.
- (f) Operate the QA audit and corrective action system.
- (g) Operate the QA training program.
- (h) Provide operational support to SPE-QAs.

3.4.2.2 Manager, Quality Engineering Branch

The Manager, Quality Engineering Branch is responsible to the Manager, Quality Systems Department to accomplish the following:

- (a) Review design and procurement documents and supplier bid packages.
- (b) Evaluate supplier QA programs, procedures, and quality performance.
- (c) Develop NDE techniques and procedures.
- (d) Establish QA personnel qualification standards for component manufacturing and inspection special processes.
- (e) Monitor assignment of personnel and application of operations and equipment for special processes.
- (f) Participate in disposition of supplier's Nonconformance Reports.
- (g) Provide quality assurance engineering support to the installation site.
- (h) Assist Customers in the implementation of inservice inspection programs.
- (i) Coordinate the calibration program for measuring and testing equipment.

3.4.3 Quality Project Management

The Senior Project Engineers-QA (SPE-QA) are responsible to the Director, Quality Assurance to accomplish the following:

- (a) Define QA Program requirements for each of his projects/programs.
- (b) Manage the QA Program for each of his projects/programs.
- (c) Assure QA Program effectiveness and identify quality related problems for each of his projects/programs, and provide written status reports to the project/program manager and the Customer.
- (d) Maintain communication channels for project/program quality matters across internal and external organizational interfaces.

- (e) Assure that verbal communication between the QA organization of General Atomic and the utilities, or their representatives, which affects the QA Program and requires action, is documented. Copies of such documentation are transmitted to the Project/Program Manager.
- (f) Perform specific inspection and/or quality engineering functions (including MRB and design review) for each of his projects/programs, when deemed appropriate because of project/program scope.
- (g) Coordinate audits by the Customer and regulatory agency representatives at GA or GA's suppliers and provide resolution and corrective action responses for audit deficiencies.
- (h) Prepare and coordinate QA input to all sections of the SAR (PSAR thru FSAR) including entire Chapter 17. Maintain the SAR current with GA's QA Program, Manual, and regulatory requirements.

3.4.4 Manufacturing Assurance

The Manager, Manufacturing Assurance is responsible to the Director, Quality Assurance to accomplish the following:

- (a) Verify* that applicable quality-related requirements have been adequately and correctly identified by the manufacturing and Quality Control (QC) organizations.
- (b) Verify* that adequate quality planning is performed by the QC organizations in a timely manner.
- (c) Verify* that the necessary quality has been achieved by the manufacturing organizations and that the work conforms to specified requirements.
- (d) Maintain appropriate records to reflect the nature, extent, and results of the Manufacturing Assurance activities.

3.4.5 Fort St. Vrain QA Manager

The Fort St. Vrain QA Manager is responsible to the Director, Quality Assurance for assuring that General Atomic site activities are performed in compliance with applicable drawings, specifications, codes, and standards. Specific responsibilities include:

* These quality verification measures are of an overview nature consisting of selected reviews, inspections, tests, checks, analyses, and audits and are not intended to replace the QC activities or responsibility for quality which rests with the QC and Manufacturing organizations.

- (a) Develop and maintain the GA Fort St. Vrain Site QA Manual.
- (b) Receive, accumulate, and maintain custody of appropriate QA records at the site.
- (c) Review procurement documents, Field Change Notices, Work Authorizations, and the constructor's quality plans.
- (d) Determine and witness hold points and perform surveillance of constructors.
- (e) Document nonconformances and coordinate disposition.
- (f) Coordinate QA activities with other site contractors and the owner.
- (g) Direct the stopping of work by the site contractor, if required.
- (h) Provide QA surveillance of pre-operational testing.

3.4.6 Manager, Component Manufacturing Quality Control

The Manager, Component Manufacturing Quality Control is responsible to the Manager, Component Manufacturing for assuring that products manufactured by GA Component Manufacturing are in compliance with applicable drawings, specifications, codes, and standards. Specific responsibilities include:

- (a) Review contractual documents, specifications, procedures, and drawings to determine the quality control and ASME Code requirements to be applied to items manufactured by GA.
- (b) Prepare inspection instructions, including coordination with Customer representatives and the Authorized Nuclear Inspector concerning interpretation of equipment-related documents, quality requirements, nonconformance disposition, and establishment of notification/hold points.
- (c) Review applicable Service Requests and Procurement Requisitions and approve Purchase Orders to assure that adequate quality and ASME Code requirements are stated.
- (d) Provide quality engineering support on ASME Code matters, nondestructive examination, dimensional verification, and quality system requirements.

- (e) Maintain liaison with Customer representatives regarding the quality engineering aspects of GA component manufacturing work and provide information on quality control matters, as requested.
- (f) Provide receiving, in-process, and final inspection (including NDE and specified acceptance testing activities) and issue Work Releases.
- (g) Monitor tools, gages, and equipment used for product acceptance for compliance with specified calibration frequencies.
- (h) Verify accomplishment of manufacturing activities to approved work instructions.
- (i) Assure that the Authorized Nuclear Inspector and Customer quality assurance representatives/inspectors are properly notified regarding notification/hold points and other inspection matters for items under their cognizance.
- (j) Report and control nonconforming items and manage the material review process.
- (k) Monitor weld procedure and welder qualification testing.
- (l) Review and approve qualification record forms upon verification of satisfactory results from qualification testing of welding procedures and welders.
- (m) Maintain file of approved welding procedures and work documents.
- (n) Control weld filler materials.
- (o) Prepare manufacturer's data reports for ASME Code items.
- (p) Initiate corrective action for manufacturing and supplier quality problems.
- (q) Review and approve welding procedures.

3.4.7 Manager, Fuel Manufacturing Quality Control

The Manager, Fuel Manufacturing Quality Control is responsible to the Director, Fuel Operations for assuring that fuel manufactured by GA is in compliance with applicable specifications, codes, and standards. He insures facility adequacy, and maintains and directs an inspection staff and a quality engineering staff to evaluate, monitor, and survey production processes and product.

Specific responsibilities include:

- (a) Review design and procurement documents for fuel items.
- (b) Prepare inspection instructions and perform process and product monitoring, measurement, evaluation, and testing to determine compliance of fuel materials and products with requirements, and issue material releases.
- (c) Inspect fuel materials at source and/or on receipt to assure compliance with GA Purchase Order requirements, including special nuclear materials requirements.
- (d) Maintain a quality control laboratory, appropriately equipped to determine that deliverable fuel is in compliance with design requirements.
- (e) Perform supplier surveillance and /or qualification for fuel-related items.
- (f) Control calibration for production processes and product measurements.
- (g) Report and control nonconforming fuel items.
- (h) Manage the nonconforming material review process for fuel operations.
- (i) Maintain liaison with Customer representatives and provide them with assistance regarding the quality engineering aspects of GA fuel fabrication. Prepare and present documentation packages for review by Customer representatives and provide information on quality control matters as requested.

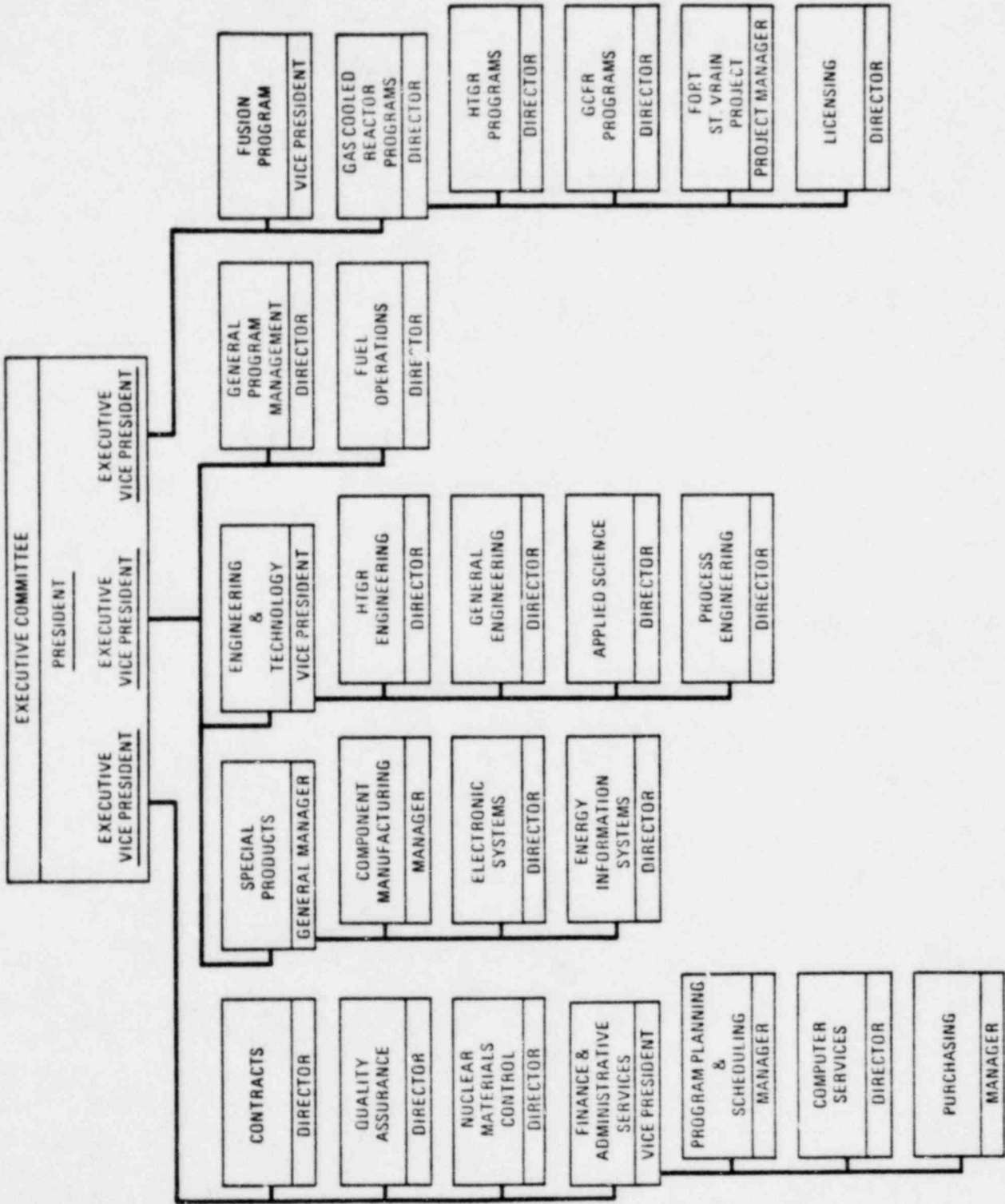
3.4.8 Manager, Electronic Systems Quality Control

The Manager, Electronic Systems Quality Control is responsible to the Director, Electronic Systems for assuring that products comply with applicable drawings, specifications, codes, and standards. Specific responsibilities include:

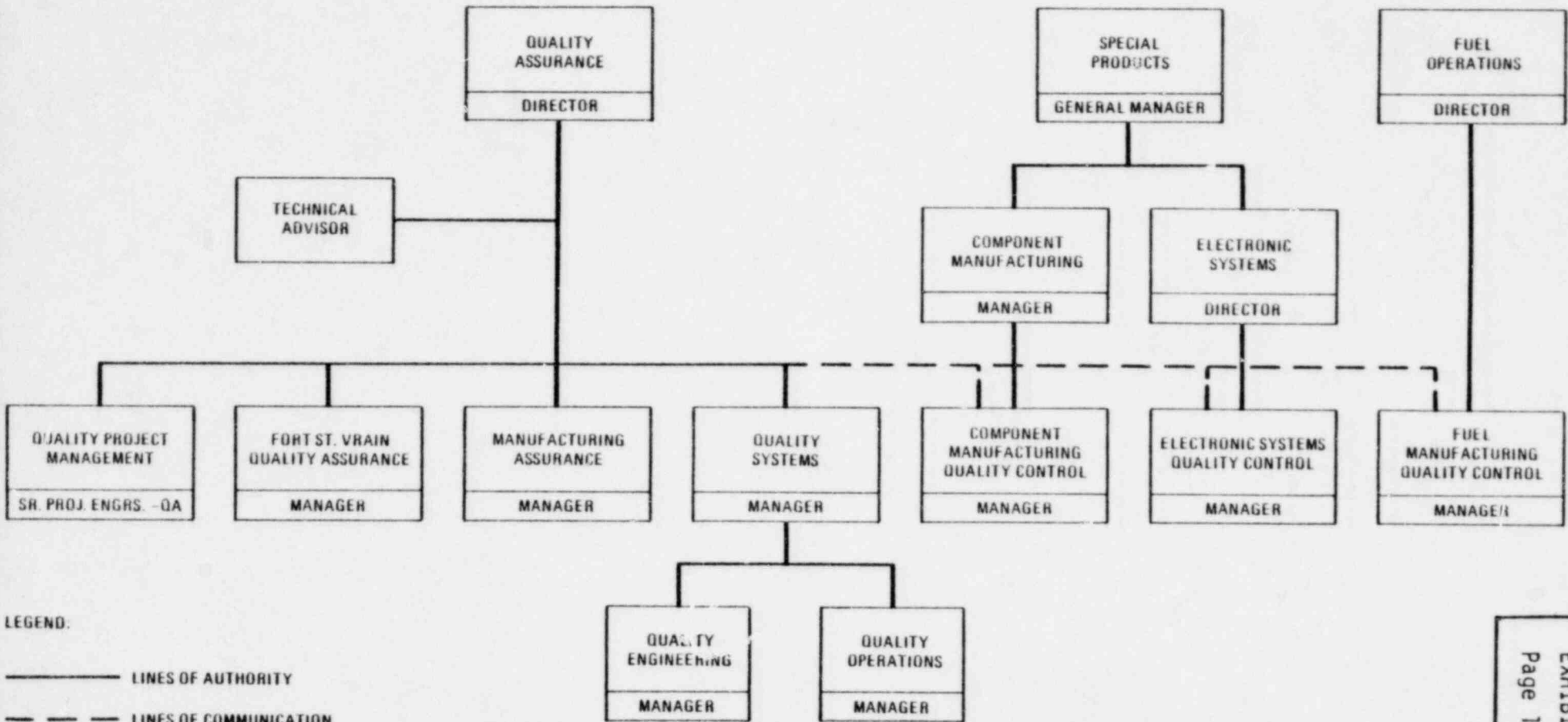
- (a) Review policies, procedures, and practices to assure consistency with GA and customer requirements.
- (b) Establish and maintain a quality program, satisfactory to customers' and Electronic Systems Division requirements.
- (c) Interface with customers in matters affecting product and procedural quality.

- (d) Establish quality standards, through coordination with instrumentation and control and manufacturing activities.
- (e) Provide inspection and testing services required to verify achievement of specified quality standards.

ORGANIZATIONS THAT IMPLEMENT THE
GA QA PROGRAM



QUALITY ASSURANCE ORGANIZATION





GENERAL ATOMIC

QUALITY PROCEDURE NO. ADDENDUM 1

REVISION: G

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TITLE: TERMS AND DEFINITIONS

APPROVED

DIRECTOR, QUALITY ASSURANCE

EXECUTIVE VICE PRESIDENT

A&E or AE - Architect and Engineer (generating station Balance of Plant constructor).

Approval - An act of endorsing or adding positive authorization or both.

Appurtenance - A part that is attached to a component which has been completed.

Appurtenance (ASME Code Section III, Div. 2) - An appurtenance is an item intended to be attached to a completed and stamped component which has work performed on it requiring verification by an Authorized Nuclear Inspector.

As-Built Data - Documented data that describes the condition actually achieved in a product.

ASME - American Society of Mechanical Engineers.

ASME Code - Section I (Power Boilers), Section III (Nuclear Power Plant Components), Section VIII (Pressure Vessels) and reference Code sections as applicable to the products covered by the GA Certificate of Authorization.

Assembly - A combination of subassemblies or components, or both, fitted together to form a unit.

Assembly Drawing - A drawing which shows the assembled relationship of any functional combination of parts and assemblies.

Audit - An audit is a documented activity performed in accordance with written procedures or checklists to verify by examination and evaluation of objective evidence that applicable elements of the quality program have been developed, documented, and implemented in accordance with specific requirements. An audit does not include surveillance or inspection for the purpose of process control or product acceptance.

Authorized Nuclear Inspector (ANI) - An Inspector performing inspections required by ASME Code Section III who has been qualified by written examination under the rules of any state of the U.S. or province of Canada which has adopted the ASME Code. Where the term Authorized Nuclear Inspector is used, it is understood that for ASME Code non-nuclear work this term refers to the Authorized Inspector.

Authorized Inspection Agency (AIA) - An Authorized Inspection Agency is one designated as such by the appropriate legal authority of a state or municipality of the United States or a province of Canada. The agency employs the Authorized Nuclear Inspectors who perform inspection required by the ASME Code and must also have on their staff one or more Inspection Specialists for those activities applicable to Section III. The agency may be a state or municipality of the United States or a province of Canada or an insurance company authorized to write boiler and pressure vessel insurance.

Balance of Plant (BOP) - All components and services of the complete power generating station, except the NSS, work and support services, and nuclear fuel provided by GA.

Certificate of Authorization - Evidence of permission to perform a scope of work, to certify an item, or to use an appropriate Code Symbol Stamp.

Certificate of Conformance - A written statement, signed by a qualified party, certifying that items or services comply with specific requirements.

Certificate of Compliance - A written statement, signed by a qualified party, attesting that the items or services are in accordance with specified requirements and accompanied by additional information to substantiate the statement.

Certification - The action of determining, verifying, and attesting, in writing, to the qualifications of personnel or material.

Certified Materials Test Report - A written and signed document from the materials manufacturer or supplier which includes the actual results of all required chemical analyses, tests, examinations (including radiographic film when radiography is required), repairs and heat treatments (including times and temperatures) performed on material.

Certified Test Report - A written and signed document, approved by a qualified party, that contains sufficient data and information to verify the actual properties of items and the actual results of all required tests.

Change Notice (C/N) - A form used to communicate an approved engineering change.

Characteristic - Any property or attribute of an item, process, or service that is distinct, describable, and measurable, as conforming or nonconforming to specified quality requirements. Quality characteristics are generally identified in specifications and drawings which describe the item, process, or service.

Checks - The tests, measurements, verifications or controls placed on an activity by means of investigations, comparisons, or examinations, to determine satisfactory condition, accuracy, safety, or performance.

Cleanliness - A state of being clean in accordance with predetermined standards, and usually implies freedom from dirt, scale, heavy rust, oil, or other contaminating impurities.

Code of Federal Regulations, Title 10, Part 50, Appendix B (10CFR50) -

Delineates U. S. Nuclear Regulatory Commission (NRC) quality assurance criteria for nuclear power plants and fuel reprocessing plants. Licensing of production and utilization facilities is contingent on satisfaction of 10CFR50 requirements.

Component - An item such as a vessel, concrete reactor vessel, concrete containment, piping system, pump, valve, core support structure, or storage tank (NCA-1210).

Component Manufacturing - An organizational name for the General Atomic facility which processes material, fabricates items, and makes assemblies from both GA-manufactured and procured items.

Construction - As used in ASME Code, Section III, Division 1, is an all-inclusive term comprising materials, design, fabrication, examination, testing, inspection, and certification required in the manufacture, erection, and installation of items.

Construction - As used in ASME Code, Section III, Division 2, includes all those operations required to build the component and its parts in accordance with Design Drawings and Construction Specifications which have been prepared by the Designer.

Construction Drawings - Drawings which show the association of structures, the interrelation of structural design elements, and the supporting services, equipments, and utilities.

Construction Documents (ASME Code, Section III, Div. 2) - The construction documents are shop drawings, field drawings, construction procedures, and material documentation.

Construction Phase - A period which commences with receipt of items at the construction site and ends when the components and systems are ready for turn-over to operations personnel.

Construction Report - A report prepared by the Constructor that summarizes and verifies that activities in construction of the CRV or containment comply with the Construction Specification, Design Drawings, and ASME Code, Section III, Division 2 (NCA-3454).

Constructor (ASME Code, Section III, Div. 2) - The organization responsible for the construction of the components, including, but not limited to, installation and placement of parts and appurtenances in accordance with the Design Drawings and Construction Specification.

Contaminants - Foreign materials such as mill scale, dirt, oil, chemicals, and any matter that renders a fluid, solid, or surface impure and unclean according to present standards of acceptable cleanness.

Contractor - Any organization under contract for furnishing items or services. It includes the terms Vendor, Supplier, Subcontractor, Fabricator, and subtier levels of these where appropriate.

Control and Electrical Diagrams - Diagrams which provide an index for identifying electrical items within subsystems and define how these items are inter-connected.

Control and Instrumentation Diagrams - Diagrams which identify electrical items within subsystems and define how these items operate.

Control Documents - Documents which directly control the design of the NSS and which are permanently retained and maintained.

Controlled Documents - Documents that once released or issued may not be changed in any manner without going through a formal review and change authorization process that informs all holders of the previous issue.

Data Base (Engineering) - A computerized index which is used to record design documents and sketches required for a project.

Data Reports - Reports which are filled out by the Certificate Holder and signed by the Certificate Holder and Inspector for Code Symbol Items.

Defect (10CFR21) - (1) Those deviations in delivered components from technical requirements included in the procurement document that could, on the basis of an evaluation, create a substantial safety hazard; or (2) A deviation in a portion of the facility subject to the construction permit or manufacturing licensing requirement of Part 50 provided the deviation could, on the basis of an evaluation, create a substantial safety hazard and the portion of the facility containing the deviation has been offered to the purchaser for acceptance; or (3) Any condition or circumstance involving a basic component that could contribute to the exceeding of a safety limit as set forth in the operating license technical specifications.

Defective Material - A material or component which has one or more characteristics that do not comply with specified requirements.

Deliverable Hardware - Structures, systems, components, or portions thereof, which are physically supplied to the Customer's site.

Deliverable Software - Documents which are furnished to the Customer, e.g., technical documents for Customer use in design coordination, operating and maintenance manuals, and design reports required by ASME Code.

Design Baseline - An approved, compatible design, established at selected points of design maturity, which serves as a defined point of departure to which all changes relate.

Design Criteria - Documents which specify the basic design requirements for specific structures, machines, and components. These documents provide a controlled base from which the detail design is developed.

Design Document Index (ddi) - A listing of design documents that identify the product configuration during the planning, design, and fabrication phases of a program.

Design Reports - A summarization of information generated in the development of a final design, which confirm evidence of design adequacy. When required by the particular ASME Code Section, this report shall be certified by a Registered P. E.

Design Report (ASME Code, Section III, Div. 2) - A report prepared by the Designer, containing design calculations and design sketches (NCA-3350).

Design Review Board (DRB) - A board, comprised of representatives of organizations concerned with product design, which reviews and approves the design documents.

Design Specifications - Owner's or user's specifications which establish the applicable technical requirements necessary in designing and formulating details. This will be developed in accordance with, and contain information as specified in, the applicable Code Section.

Design Specification (ASME Code, Section III) - A document prepared by the Owner or designee which contain sufficient detail to provide a complete basis for Division 1 construction, or Division 2 design (NCA-3252).

Designated Release Authority - The group authorized within each function/project for the release of design documents. Such release is accomplished after assuring that the necessary approvals have been obtained. The designated release authority also controls the assignment and use of release stamps.

Deviation - A nonconformance or departure of a characteristic from specified requirements.

Documentation - Any written or pictorial information describing, defining, specifying, reporting or certifying activities, requirements, procedures, or results.

Draft Review Report (DRR) - A collection of related documents consisting of approvals and or comments (and their resolutions) pertaining to design documents.

Draft Review Waiver - A memorandum which releases a design document without full, formal draft review when minor changes are involved.

Engineering Document - A specification, drawing, sketch, list, standard, pamphlet, report, or other printed or typewritten information, relating to the design, procurement, manufacture, test, or inspection of items or services under the contract.

Erection Drawings - Drawings which show how structures are to be assembled and erected.

Examination - An element of inspection consisting of investigation of materials, components, supplies, or services to determine conformance to those specified requirements which can be determined by such

investigation. Examination is usually nondestructive and includes simple physical manipulation, gaging, and measurement.

Fabricator - One who produces parts, appurtenances, components in accordance with the design drawings and construction specification.

FSAR - Final Safety Analysis Report - A report, responsive to the requirements of paragraph 50.34(c) of 10CFR50, which contains sufficient information about the final design of the nuclear power plant for the NRC to be reasonably assured that the operation of the facility will not endanger the health and safety of the public. The FSAR is submitted to the NRC by the Customer as part of the application for a plant operating license.

Generating Station - A utility company complex, constructed and operated for the purpose of producing electric power.

Guidelines - Particular provisions which are considered good practice but which are not mandatory in programs intended to comply with ANSI Standards. The term "should" denotes a guideline; the term "shall" denotes a mandatory requirement.

High Temperature Gas Cooled Reactor (HTGR) - The nuclear generating facility, i.e., the NSS (or NSSS) and BOP.

Independent Design Review - The systematic technical review of complex engineered systems and product designs at conceptual, preliminary, and final design baselines occurring during the evaluation of a design by personnel independent of the design process, but technically competent in the same disciplines which have provided input to the design.

Inspector (Owner's or Installer's) - A qualified inspector employed by the Owner or Installer whose duties include the verification of quality related activities or installations or both.

Inspection - A phase of quality control which by means of examination, observation, or measurement determines the conformance of materials, supplies, components, parts, appurtenances, systems, processes, or structures to predetermined quality requirements.

Item - Any level of unit assembly, including structure, system, subsystem, subassembly, component, part, or material.

Manufacturer - One who constructs any class of component, part, or appurtenance to meet prescribed design requirements.

Manufacturing Drawings - Provide information required to manufacture selected parts.

Manufacturing Assembly Parts List (MAPL) - An indentured tabulation of all parts and bulk materials (except those materials to support a process) showing the sequence for manufacture and the sequence for assembly.

Material - Elements or compounds manufactured to a specification. ASME Code materials are manufactured to an SA, SB, or SFA specification or any other material specification permitted by the applicable ASME Code Section.

Material Review Board (MRB) - A technical group, responsible for approving all "Use-As-Is" or "Repair" dispositions of nonconforming items. The Board is comprised of representatives of Engineering, Quality Assurance, and the Customer (as required by contract). For ASME items, a GA Registered Professional Engineer, competent in the field of pressure vessel and related components design, shall be included.

Modification - A planned change in plant design or operation and accomplished in accordance with the requirements and limitations of applicable codes, standards, specifications, licenses, and predetermined safety restrictions.

Noncompliance (10CFR21) - Failure to comply with the Atomic Energy Act of 1954, as amended, or any applicable rule, regulation, or order or license of the NRC relating to a substantial safety hazard in the construction or operation of a licensed facility or activity subject to the regulations of 10CFR21.

Nonconformance - A deficiency in characteristic, documentation, or procedure which renders the quality of an item unacceptable or indeterminate. Examples of nonconformance include: physical defects, test failures, incorrect or inadequate documentation, or deviation from prescribed processing, inspection, or test procedures, this manual, or from the ASME Code.

Nonconformance Report (NR) - The reporting document used by Quality Assurance to disposition nonconformances through preliminary and/or material review action.

NSS - Nuclear Steam Supply. (Or NSSS - Nuclear Steam Supply System or Nuclear Steam System Supplier.)

NSS Arrangement Diagrams - A method for identifying and locating NSS sub-systems, structures, and machines, and relating them to each other.

Objective Evidence - Any statement of fact, information, or record, either quantitative or qualitative, pertaining to the quality of an item or service based on observations, measurements, or tests which can be verified.

Owner - The person, group, company, or corporation who will have or has title to the facility or installation under construction.

Packaged Unit - An assembly of items and parts which can be disassembled without destroying the integrity of the individual parts.

Part (ASME Code, Section III) - A part which is attached to or becomes a portion of a component or component support before completion and stamping of the component or component support (NCA-1231).

Piping & Instrument (P&I) Diagrams - An index for identifying mechanical items within subsystems and defining how the items are interconnected and operate.

Piping Drawings - Define the material, fabricating, routing, connecting, testing, and other requirements for hydraulic or pneumatic piping.

Plant - The equipment, piping, structures, buildings, and property that comprise an installation or facility.

Plant Arrangement Drawings - A suggested arrangement of NSS equipment within a nuclear power plant. GA provides plant arrangement drawings for NSS and BOP equipment.

FSAR - Preliminary Safety Analysis Report. A document that explains the considerations taken to protect the health and safety of the public and is required to be submitted to NRC to obtain a construction permit. (See FSAR).

PCR - Prestressed Concrete Reactor Vessel.

Procedure - A document that specifies or describes how an activity is to be performed. It may include methods to be employed, equipment or materials to be used, and sequence of operations.

Procurement Documents - Contractually binding documents that identify and define the requirements which items or services must meet in order to be considered acceptable by the purchaser.

Project - A planned series of activities including all action necessary to provide, utilize, and maintain a facility or portion thereof.

Purchaser - The organization or organizations responsible for issuance and administration of a contract, subcontract, or purchase order.

Qualification (Personnel) - The characteristics or abilities gained through training or experience or both that enable an individual to perform a required function.

Qualified Party - A person or organization competent and recognized as knowledgeable to perform certain functions.

Qualified Procedure - A procedure which incorporates all applicable codes and standards, manufacturer's parameters, and engineering specifications and has been proven adequate for its intended purpose.

Qualified Process - A particular method or sequence of operations which has been proven to produce a satisfactory result.

Quality Assurance - All those planned and systematic actions necessary to provide adequate confidence that an item or a facility will perform satisfactorily in service and satisfies all requirements of the applicable ASME Code.

Quality Assurance Level (QAL) - A design level, established by the Design Engineer, indicative of the intended use of the item, i.e., QAL I, QAL II, and QAL III. (See QP-3.)

Quality Control - Those quality assurance actions which provide a means to control and measure the characteristics of an item, process, or facility to established requirements.

Receiving - Taking delivery on an item at a designated location.

Repair - The process of restoring a nonconforming characteristic to a condition such that the capability of an item to function reliably and safely is unimpaired, even though that item still may not conform to the original requirement. In the case of ASME Code items, the final condition of the item shall meet all requirements of the applicable ASME Code Section.

Report - Something (document) that gives information for record purposes.

Review/Approval - As used in this manual will be signified by either a signature, initials,* or a stamp and date.

Rework - The process by which a nonconforming item is made to conform to a prior specified requirement by completion, remachining, reassembling, or other corrective means.

SAR - Safety Analysis Report (See PSAR and FSAF.).

Significant Deficiency (10CFR50.55(e)) - Any deficiency found in design or construction which, "were it to have remained uncorrected, could have affected adversely the safety of operation of the nuclear power plant at any time throughout the expected lifetime of the plant, and which represents: (1) A significant breakdown in any portion of the Quality Assurance Program; or (2) A significant deficiency in final design as approved and released; or (3) A significant deficiency in construction of or significant damage to a structure, system, or component which will require extensive evaluation, extensive redesign, or extensive repair; or (4) A significant deviation from performance specifications which will require extensive evaluation, extensive redesign, or extensive repair."

*When initials are used, an identification list of names and corresponding initials shall be made a part of the permanent records file.

Source Surveillance - A review, observation, or inspection for the purpose of verifying that an action has been accomplished as specified at the location of material procurement or manufacture.

Special Processes -

Special Inspection Processes - Those nondestructive tests or special inspection methods which are used to establish objective evidence of quality control and to direct discontinuities, without destroying the usefulness of the part.

Special Manufacturing Processes - Those metallurgical, welding, heat treating, and other processes where assurance of the process quality is dependent on the inherent skill of the operator, equipment capability, and process characteristics, and cannot be assured by the inspection of articles alone.

Specification - A concise statement of a set of requirements to be satisfied by a product, a material or process indicating, whenever appropriate, the procedure by means of which it may be determined whether the requirements given are satisfied.

Standard - The result of a particular standardization effort approved by a recognized authority.

Subsystem - A group of assemblies or components or both combined to perform a single function.

System - A group of subsystems united by some interaction or interdependence performing many duties but functional as a single unit.

System Performance Test - A test performed on a completed system including electric, instrumentation, controls, fluid, and mechanical subsystems under normal or simulated normal process conditions such as temperature, flow, level, and pressure.

Testing - The determination or verification of the capability of an item to meet specified requirements by subjecting the item to a set of physical, chemical, environment, or operating conditions.

Traveler - A work document which gives the detailed sequence of manufacturing and inspection operations and instructions to be used for the control of the manufacturing and inspection process.

Trip-Point - A predetermined critical level at which a bistable device changes state to indicate that the quantity under surveillance has reached the selected value.

Unusual Occurrence (RDT Std. F2-2) - An unusual or unplanned event having programmatic significance such that it adversely affects or potentially affects the performance, reliability, security, or safety of a reactor or test facility, or causes injury or potential hazard to personnel which may require special evaluation, correction, or preventive action to be taken.

Use-As-Is - A disposition which may be imposed for a nonconformance when it can be established that the discrepancy will result in no adverse conditions and that the item under consideration will continue to meet all engineering functional requirements including performance, maintainability, fit, safety and applicable ASME Code requirements.

Verification - An act of confirming, substantiating, and assuring that an activity or condition has been implemented in conformance with the specified requirements.

Work Release - A form (GA 580) which, when signed by an authorized Quality Assurance representative, signifies that the operations required to verify compliance with quality assurance requirements specified in drawings, specifications, and Purchase Orders or other contractual agreements have been accomplished prior to shipment of a product. The Work Release used by General Atomic is the equivalent of documents sometimes termed "Certificate of Compliance" or "Certificate of Conformance."