

Attachment 34

**General Atomics-Electronics Systems Inc. redacted non-proprietary document OP-7.3-240, "Safety-Related Commercial Grade Item Parts Acceptance," Revision K
(Letter Item 12)**

BECHTEL POWER CORPORATION	Job Number: 25402
SUPPLIER DOCUMENT REVIEW STATUS	
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1 <input type="checkbox"/> Work may proceed.	3 <input type="checkbox"/> Rejected. Revise and resubmit.
1C <input type="checkbox"/> Work may proceed. Editorial comments need only be incorporated if revised for other purposes.	4 <input checked="" type="checkbox"/> Review not required. Work may proceed.
2 <input type="checkbox"/> Revise and resubmit. Work may proceed subject to incorporation of changes indicated.	PO 77469 release 77448
<p>Permission to proceed does not constitute acceptance or approval of design details, calculations, analysis, test methods, or materials developed or selected by the Supplier and does not relieve the Supplier from full compliance with contractual obligations.</p>	
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<i>Joe Temples Joe T. Temples</i>	<i>10/18/11</i>



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RELEASE APPROVAL (REVIEW COMMITTEE)

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REVISION HISTORY

Rev.	Date	Author	Description
K	9-26-11	John Morris	Incorporated NRC comments on the procedure.

1. SCOPE

This procedure provides the instructions for evaluating commercial grade items (CGI) that have safety related (SR) applications in radiation monitor system (RMS) equipment supplied by General Atomics Electronic Systems Inc. (GA-ESI). A CGI may be furnished as an integral part of RMS equipment at original assembly or as a spare or replacement part for equipment previously assembled and delivered to the customer. This procedure provides the method to determine:

- a. whether a part is a CGI;
- b. whether a CGI is SR (i.e., SR CGI);
- c. whether a SR CGI is fully challenged during equipment assembly and/or testing;
- d. whether critical characteristics of a SR CGI must be verified prior to equipment assembly; and
- e. whether a SR CGI is equivalent to the item being replaced when sold as a spare or replacement part.

This procedure provides guidelines for establishing verification activities required to assure the SR CGI will successfully perform its intended safety-related function in its qualified assembly.

Verification of an item's critical characteristics is required when dedicating a SR CGI.



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2. APPLICABLE DOCUMENTS

IEEE Std. 323-1974, "IEEE Standard for Qualifying Class 1E Equipment for Nuclear Power Generating Stations"

IEEE Std. 344-1975, "IEEE Recommended Practices for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Stations"

IEEE 7-4.3.2, "IEEE Standard Criteria for Digital Computers in Safety Systems of Nuclear Power Generating Stations"

10CFR50.49, "Environmental Qualification of Electrical Equipment Important to Safety for Nuclear Power Plants"

10CFR21, "Reporting of Defects and Noncompliance"

USNRC Regulatory Guide 1.97 (REV. 3), "Instrumentation For Light Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident"

ANSI/ASME NQA-1 (1986), "Quality Assurance Program Requirements For Nuclear Power Plants"

EPRI NP-5652 "Guideline For The Utilization Of Commercial Grade Items In Safety Related Applications" (NCIG-07)

NRC Generic Letter 89-02 (March 21, 1989), "Actions to Improve the Detection of Counterfeit and Fraudulently Marketed Products"

NRC Generic Letter 91-05, "Licensee Commercial Grade Procurement and Dedication Program"

EPRI NP-6406 "Guidelines for the Technical Evaluation of Replacement Items in Nuclear Power Plants" (NCIG-11)

EPRI TR-102260, "Supplemental Guidance for the Application of EPRI Report NP-5652 on the Utilization of Commercial Grade Items"

EPRI TR-106439, October 1996, "Guideline on Evaluation and Acceptance of Commercial Grade Digital Equipment for Nuclear Safety Applications"

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3. DEFINITIONS

Approved Suppliers List (ASL) - A list of suppliers qualified, controlled and maintained by Product Assurance per QAP 4-04, Authorized Suppliers, that identifies those vendors/suppliers which have an approved Quality Assurance Program applicable to their scope of supply.

Basic Component –

a. When applied to nuclear power plants licensed under 10 CFR 50 or part 52, Basic Component means a structure, system, or component, or part thereof that affects its safety function necessary to assure:

1. The integrity of the reactor coolant pressure boundary;
2. The capability to shut down the reactor and maintain it in a safe shutdown condition; or
3. The capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposures comparable to those referred to in paragraphs 50.34 (a)(1), 50.67 (b)(2), or 100.11.

Basic Components are items designed and manufactured under a quality assurance program complying with 10CFR50 Appendix B, or CGIs that have successfully completed the dedication process.

b. When applied to standard design certifications and standard design approvals under subpart C of part 52 , Basic Component means the design or procurement information approved or to be approved within the scope of the design certification or approval for a structure, system, or component, or part thereof, that affects its safety function necessary to assure:

1. The integrity of the reactor coolant pressure boundary;
2. The capability to shut down the reactor and maintain it in a safe shutdown condition; or
3. The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those to in paragraphs 50.34 (a)(1), 50.67 (b)(2) or 100.11 of Title 10 Chapter I, as applicable.

c. When applied to other facilities and other activities licensed under 10 CFR parts 30, 40, 50 (other than nuclear power plants), 60, 61, 63, 70, 71, or 72, 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



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regulations in this part and in which a defect or failure to comply with any applicable regulation in Title 10 chapter I, order, or license issued by the NRC could create a substantial safety hazard.

- d.. 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, design certification, design approval, or information in support of an early site permit application under part 52 of Title 1 Chapter I, whether these services are performed by the component supplier or others.

Certificate of Conformance (C of C) - A written statement, signed by a qualified party, certifying that items or services conform to specific requirements.

Class 1E - The safety classification of the electrical equipment and systems that are essential to emergency reactor shutdown, containment isolation, reactor core cooling, and containment and reactor heat removal, or otherwise are essential in preventing significant release of radioactive material to the environment.

Commercial Grade Item (CGI) –

- a. When applied to nuclear power plants licensed pursuant to 10 CFR Part 50, CGI 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).
- b. 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, CGI means an item that is:
 1. Not subject to design or specification requirements that are unique to those facilities or activities;
 2. Used in applications other than those facilities or activities; and
 3. 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).

Commercial Grade Item Engineering Evaluation (CGIEE) – An evaluation form used by ESI engineering to document the verifiable critical characteristics of a SR CGI and to identify end use in customer SR assemblies.

Component - A piece of equipment such as a printed circuit board assembly, piping, pump, valve, detector chamber, or structure which will be combined with other components to form a system.



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- a. Major Component - That portion of a sub-system whose physical and functional characteristics can be segregated and defined within the overall physical and functional characteristics of that system or sub-system. One or more major components united by some interaction or interdependence comprising a system or sub-system.
- b. Subcomponent - That portion of a major component whose physical and functional characteristics can be segregated and defined within the overall physical and functional characteristics of that major component. One or more subcomponents united by some interaction or interdependence comprising a major component.

Conditioning - Any additional work or processing which is imposed on a part which makes it different from nominally similar parts.

Note: Conditioning may include: special calibration, adjustment, tuning, selection testing, "burn-in", heat treatment, machining, and similar processes.

Critical Characteristics (CC) – When applied to nuclear power plants licensed pursuant to 10 CFR Part 50, critical characteristics are those important design, material, and performance characteristics of a CGI that, once verified, will provide reasonable assurance that the item will perform its intended safety function.

Critical Characteristic Acceptance Plan (CCAP) – A form used by GA-ESI Quality Control to document acceptance of SR CGI critical characteristics for a part. A CCAP is implemented based upon a corresponding CGIEE as required for SR CGI material dedication when received or when supplied as a spare or replacement to a customer.

Dedication–

- a. When applied to nuclear power plants licensed pursuant to 10 CFR Part 30, 40, 50, 60, dedication is an acceptance process undertaken to provide reasonable assurance that a CGI to be used as a basic component will perform its intended safety function and, in this respect, is deemed equivalent to an item designed and manufactured under a 10CFR50, Appendix B, quality assurance program. This assurance is achieved by identifying the critical characteristics of the item and verifying their acceptability by inspections, tests, or analyses performed by the purchaser or third-party dedicating entity after delivery, supplemented as necessary by one or more of the following: commercial grade surveys; product inspections or witness at hold points at the manufacturer's facility, and analysis of historical records for acceptable performance. In all cases, the dedication process must be conducted in accordance with the applicable provisions of 10CFR50, Appendix B. The process is considered complete when the item is designated for use as a basic component.



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- b. When applied to facilities and activities licensed pursuant to 10 CFR 30, 40, 50 (other than nuclear power plants), 60, 61, 63, 70, 71, or 72, dedication occurs after receipt when that item is designated for use as a basic component.

Equivalency Evaluation - An evaluation performed to confirm that a replacement item, which is not identical to the original item, will satisfactorily perform its intended function once in service. This term is synonymous with "equal-to-or-better-than" evaluation.

Equivalent Item - A replacement item which is not identical to the item that was originally designed and/or installed, but which does not alter the plant's design basis or adversely affect the qualification of the parent equipment and is bounded by the existing design analyses.

Harsh Environments - Environments that may change significantly from the normal expected environment in a sudden or prolonged manner due to the direct effects of a design basis event (i.e. Loss of Coolant Accident [LOCA] or High Energy Line Break [HELB] Accident).

Identical Item – The replacement item was:

- : purchased from the same vendor (successor companies may be accepted), provided all design, materials, or manufacturing processes are kept the same
- : purchased at the same time and the same vendor as the item it is replacing
- : the same part, make and model number, which exhibits the same technical and physical characteristics.

Item - Any level of unit assembly, including structures, systems, subsystems, subassembly, component, part, or material.

Like-for-Like - The replacement of an item with an item that is identical (e.g. replacement in kind). See Identical Item definition.

Mild Environments - An environment that would at no time be significantly more severe than the environment that would occur during normal plant operation, including anticipated occurrences.

Original Equipment Manufacturer (OEM) - The organization which performed the design, production and fabrication of the original item.

Part - That portion of a major component or subcomponent whose physical characteristics can be segregated and defined within the overall physical characteristics of that major component or subcomponent.



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Safety Related - Plant systems, portions of systems, structures, and equipment whose failure or malfunction could cause a release of radio- activity in excess of the criteria specified in 10CFR100. This class also includes equipment that is vital to a safe shutdown of the plant and the removal of decay and sensible heat, or equipment that is necessary to mitigate consequences to the public of a postulated accident. This class includes ASME Code Class 1, 2, and 3 items fabricated, installed, and repaired under ASME Section III or IX and Class 1E Electrical Equipment.

Supplier - Any individual or organization furnishing items or services in accordance with a procurement document. It includes vendor, seller, contractor, subcontractor, manufacturer, and consultant, as well as sub tier levels.

Verification - An act of confirming, substantiating and assuring that an activity or condition has been implemented in accordance with the specified requirements (e.g., a certificate of conformance from an ASL supplier is a verification of compliance with specified requirements. Examinations, inspections and/or tests may be used as verifications).

4. SELECTION OF SR CGI ACCEPTANCE METHODS

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Product Assurance Engineering shall use engineering evaluation packages, [REDACTED] [REDACTED] (Engineering Evaluation Report) for technical evaluation to determine the method(s) to be used for the verification of critical characteristics and acceptance of the part. The following describe the four methods of acceptance and combinations thereof.

a. Method 1- Special Tests and Inspections

This method is used for accepting a CGI by conducting special tests and inspections. The tests and inspections shall be conducted during and after receipt of an item to verify selected critical characteristics. Method 1 shall be used if the technical data are known, test facilities are available, and the items are such that inspection and tests upon receipt are adequate to verify critical characteristics. Method 1 may be used in combination with other acceptance methods.

The critical characteristics shall be verified by a documented CCAP or checklist. It shall include:

1. Tests and inspections to be performed according to CCAP.
2. Test methods and inspection techniques to be utilized.
3. Acceptance criteria previously derived from the technical evaluation.
4. Documentation requirements for inspection and test results.
5. The sample size according to EPRI NP-7218 guideline.



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6. Tests and inspections to be performed by facilities determined acceptable by ESI Product Assurance and Engineering.

Once the critical characteristics are verified via special tests and inspections, the part may be accepted. The documentation as a result of the tests and inspections shall become part of the part documentation package that is stored with the purchase order.

b. Method 2- Commercial Grade Survey of Supplier

Method 2 is a means by which the parts may be accepted by taking credit for the commercial quality controls that the supplier may be using. These controls may constitute quality programs, procedures, or practices. Commercial grade surveys can be conducted of suppliers who are original equipment manufacturers, original part manufacturers, or distributors.

A commercial grade survey can be used to accept critical characteristics of simple or complex parts. The method is most appropriate for the following.

1. A single supplier of the CGI is being used.
2. Required technical information cannot be obtained from the supplier.
3. A large group of items are repeatedly procured from a supplier for an entire line of components.
4. The CGI is an assembly of many parts.
5. Critical characteristics cannot be verified easily by inspections or tests.

Where the supplier demonstrates adequate controls, only verification of the part number and the supplier's Certificate of Conformance is required during the standard receipt inspection to complete item acceptance.

Two criteria shall be met when conducting a commercial grade survey. Product Assurance shall confirm that the selected SR CGI's critical characteristics, as determined by engineering, are controlled under the scope of the commercial supplier's quality system activities. Product Assurance shall also be reasonably assured that the commercial supplier's activities adequately control the CGIs supplied. The survey shall be specific to the scope of the particular CGI(s) being purchased.

A CCAP shall be prepared by Product Assurance containing the survey/checklist(s) described above. The plan shall include a list of purchase order requirements necessary for the procurement of the part. Product Assurance shall obtain the necessary information to schedule the verification method(s) in the appropriate time. Purchasing shall be notified of the requirements involving the supplier to allow proper coordination and scheduling.

The results of commercial grade surveys shall be documented in an approved survey plan/checklist that includes:



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1. Item or items included within the scope of the survey.
2. Critical characteristics to be controlled by the supplier.
3. Supplier controls to be verified specific to the critical characteristics.
4. Conclusions attesting to the adequacy of the supplier controls.

Once a supplier's controls have been deemed to be adequate, Product Assurance shall invoke or reference the observed commercial or quality controls as a part of the purchase order requirements for the CGI. Care shall be taken not to impose nuclear unique standards on purchase orders for CGIs. Acceptance of the item will be completed by performing a standard receipt inspection with the accompanying supplier's Certificate of Conformance.

c. Method 3 - Source Verification

Method 3 is typically used when a supplier does not have programmatic controls in place and involves the verification of critical characteristics by witnessing quality activities before releasing the item for shipment from the supplier. When it is confirmed during a source verification that the supplier adequately controls the critical characteristics, only verification of the part number is required upon receipt. The item is accepted upon completion of the standard receipt inspection and documentation of the source verification results.

The scope of the surveillance may include witnessing fabrication and assembly processes, nondestructive examinations, performance tests, or final inspections. It may also include confirmation of the supplier's design, procurement, calibration, and material control methods employed for the particular CGI being purchased.

The results of the source verification shall be documented in an approved surveillance plan/checklist that includes:

1. Item or items included within the scope of the surveillance.
2. Critical characteristics to be controlled by the supplier.
3. Supplier controls to be verified specific to the critical characteristics.
4. Surveillance methods or verification activities performed with results obtained.
5. Evaluation of the adequacy of the supplier.

The above documentation shall be part of the QA purchase order file and shall constitute objective evidence that control of specific critical characteristics was observed. Acceptance of the item is then completed by standard receipt inspection.

d. Method 4 - Acceptable Supplier/Item Performance Record



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This method cannot be used alone for the acceptance of a CGI but may be used in conjunction with one or more other methods to demonstrate a supplier's quality history. Method 4 allows ESI to accept CGIs based upon a confidence in the supplied item achieved through proven performance of the item. It also allows ESI to take credit for item performance based upon historical verification gained from the successful utilization of Methods 1, 2, or 3 or pertinent industry-wide performance data.

Method 4 is best suited for CGIs where results of historical performance can be compiled utilizing:

1. Monitored performance of the item.
2. Industry product tests.
3. National codes and standards (not specific to the nuclear industry)
4. Other industry databases (military, aerospace, etc)

To utilize this method, Product Assurance and/or Engineering shall establish a documented supplier/item performance record using the following sources of information.

1. ESI's historical record. An item's performance record can be determined primarily by monitoring the performance of an item that was purchased from a particular supplier and by monitoring the performance of the parent component in which the part was installed.
2. ESI's historical verification. The successful acceptance of an item using method 1, 2, or 3 over a period of time provides assurance that the supplier has been providing the item specified.
3. Utilization of national codes and standards. When taking credit for an item being manufactured to a national code or standard, Product Assurance shall assure that the item was manufactured in accordance with the code or standard. This assurance can be obtained by:
 - (a.) Referencing the national code or standard in the purchase order,
 - (b.) Receiving certification from the supplier, or
 - (c.) Researching and documenting that it is standard industry practice to manufacture the product to this national code or standard.
 - (d.) Verifying manufacturer testing or independent testing with certification.

Product Assurance shall evaluate the supplier/item performance record. The evaluation shall be documented and include the following:

1. Supplier/item being evaluated.
2. Previously established critical characteristics specific to the item or supplier.
3. Identification of utility/industry data examined to evaluate the supplier/item.
4. Basis for determining that industry data substantiates acceptability of the supplier/item.



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5. Statement by GA-ESI attesting to the acceptability of the supplier/item.

e. Combination of Two or More Methods

The acceptance methods described above may be used in combinations to effectively verify critical characteristics and produce the objective evidence necessary to provide reasonable assurance of acceptability. For complex commercial grade items and commercial grade items for digital safety class systems, method 1 and at least one other method must be utilized. The evaluation of how complex the item is will include identification of such features as the overall architecture, number of functions, inputs and outputs, internal communications among processors or modules, and interfaces with other systems or devices. Methods 2 and 4 alone are not sufficient per the guidance of NRC Generic Letter 89-02.

f. Receiving Purchased SR CGI

1. If the GA-ESI parts/inventory database indicates a CCAP is required at the time a CGI is received, this indicates that critical characteristics are to be verified by QC Receiving and acceptance of the SR CGI shall be in accordance with a CCAP.
2. If a SR CGI does not require a CCAP at receiving, standard QC Receiving inspection methods will be employed.

g. Storing/Stocking A SR CGI That Requires A CCAP

1. After an SR CGI requiring a CCAP has been received, inspected and accepted, it may be placed in stock or kitted for an SR assembly.
2. When placed in stock or kitted, a SR CGI requiring a CCAP shall be identified as CCAP accepted to distinguish it from items of the same part number that have not been CCAP accepted.
3. An unverified stocked item requiring a CCAP may be accepted as SR CGI only after it is removed from stock and the critical characteristics have been verified via a CCAP. After verification, it shall be so identified and not be mixed with unverified items of the same part number.

5. PROCEDURE FOR PROJECT ASSEMBLIES

a. Safety Classification Of Assembly Parts

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b. Evaluation Of Assembly's Parts For Critical Characteristics Acceptance



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1. Engineering will evaluate each part in an assembly to identify the following:
 - (a.) The part's SR function(s)
 - (b.) The part's critical characteristic(s)
 - (c.) The part's acceptance basis(es) or method(s) of verification

This evaluation will occur at the time of customer order for equipment with SR application and at the time of new design of SR equipment.

2. Engineering will enter the above evaluation information into a Master Evaluation Matrix (MEM) database. Engineering will maintain the database by part number as a basis for review against future customer orders and new designed assemblies.

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3. If evaluation determines that critical characteristics be verified at the time SR CGI is received, Engineering will accomplish the following:
 - (a.) "Receiving CCAP" will be noted in the MEM database,
 - (b.) A CGIEE, listing the characteristics to be verified, will be generated,
 - (c.) A copy of the CGIEE will be forwarded to Product Assurance Engineering, and
 - (d.) A flag/entry shall be made in the GA-ESI parts/inventory database indicating that a CCAP is required to be implemented when SR CGI is received.

c. Determination of Critical Characteristics

A review of the part physically, functionally and materially shall be performed and characteristics identified. These shall be selected on the basis of the environment in which the part is expected to function (Harsh, Mild and seismic). The characteristics which shall be identified are those that are required to meet the safety function of the part that can be verified by one or more of the acceptance methods described in this procedure. The critical characteristics shall be as documented. The responsible engineer shall consult with needed technical interfaces (test, inspection, quality assurance) regarding the critical characteristics to insure that they are measurable and reasonable to perform.

The acceptable value of the critical characteristics shall be determined and documented.



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d. Engineering Review Of Customer Purchase Order For Assembly

Verify that the purchase order states that the assembly being ordered is SR. If wording within the purchase order leaves doubt, The GA-ESI project manager for the purchase shall contact the customer to verify whether the assembly is to be used for a SR application. If the assembly is SR, proceed with the following steps. If the assembly is not SR, the remainder of this procedure is not applicable.

1. Existing Design

- (a.) After customer PO acceptance and prior to commencing assembly, Engineering will compare the assembly parts against the MEM to identify parts not previously entered into the MEM database.
- (b.) If a part is listed in the database and part function remains the same, no further engineering effort is required.
- (c.) If part performs a different function than the one listed in the database, Engineering will proceed as in procedure step 6.b., above, make an additional entry in the database for the new information, and update the CGIEE as required and forward a copy to Product Assurance Engineering.

2. New Design

After customer PO acceptance and prior to final design review and approval, Engineering will compare the assembly parts against the MEM to identify parts not previously entered into the MEM database. Then proceed as in 6.d.1., above.

e. Shop Assembly Of SR Equipment For Customer PO

Prior to assembly, manufacturing staff shall:

1. Verify with Engineering that assembly evaluation of step 6.b. has been performed for assembly in question;
2. Prior to kitting for the given assembly, verify that parts in stock that required CCAP at SR CGI receiving (via parts/inventory database flag) are marked as accepted; and
3. Notify QC Receiving of parts in stock that required CCAP acceptance at receiving but were not so marked.



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6. PROCEDURE FOR SPARE AND REPLACEMENT SR CGI

a. SR Determination

Engineering will verify that the purchase order states that the part being ordered is SR. If wording within the purchase order leaves doubt, contact the customer to verify whether the part is SR or to be used in a SR assembly. If the part is SR, proceed with the following steps. If the part is not SR, the remainder of this procedure is not applicable. Annotate goldenrod form accordingly.

b. Determine CGI Status

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Verify that the part is not a GA-ESI basic component. If it is an ESI designed and manufactured part, this procedure does not apply. Annotate the goldenrod and process per [REDACTED]

c. Determine Dedication Responsibility

Verify the customer PO states or otherwise indicates SR CGI dedication is to be performed by GA-ESI. If the part is not to be dedicated by GA-ESI, the remainder of this procedure is not applicable.

d. Determine If PO Is For Repair

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Is the part being returned for repair? If the part is a repair return, the remainder of this procedure is not applicable. Annotate the golden rod and process per [REDACTED]

e. Part Changes

Check the part number and description the customer stated in the purchase order to determine whether it is the same as the current part number and description. If there is a difference, conduct an equivalency evaluation and determine whether the change to the current part from the part that the customer ordered was done by Engineering Change Notice (ECN), if a project specific number is applicable, or by Data Base Change Request (DBCR) or electronic database maintenance (DM) request, if a GA-ESI commercial off the shelf part number.

f. Previous Dedication Review

1. Review engineering CGI dedication records to verify if the part has been previously evaluated and dedicated for the customer and there have been no design changes. If previously done, annotate the golden rod indicating that the part has been previously dedicated.



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Check the purchase order identification of top assemblies and tag numbers and compare them with those previously verified. If they have been previously verified, update the dedication database for the new customer PO and certification of dedication.

2. If the part was previously evaluated and dedicated for a different customer, annotate the goldenrod indicating the part has not been previously dedicated for the customer but does have a dedication plan.

Note the customer PO and equipment tag numbers to which the part is to be dedicated. The SR part must be identified to a specific ESI nuclear safety-related monitor assembly. Review and identify applicable qualification reports and create a dedication database entry and a [REDACTED] to document customer tag numbers, applicable qualification test report references, significant comments and notes. This "Pass Thru" form will also be independently verified and approved by Product Assurance.

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3. If the part was not previously evaluated and has not been dedicated for any GA-ESI customer, annotate the goldenrod indicating the part has not been previously dedicated for the customer and has no Dedication Plan. Proceed to the next procedure step

g. Engineering Dedication Documentation

If the part requires dedication by ESI this will require that ESI maintain its usage for the life of the plant and that defects are reportable in accordance with the requirements of 10CFR21. The qualifying top assemblies, tag numbers and Purchase Order information are documented on the CGIEE forms, and the dedication database is updated.

h. Technical Evaluation

1. A technical evaluation shall be made using technical evaluation guidance and forms from section 4 if:

- (a.) the part has not been evaluated before,
- (b.) there are significant changes in the part since the last evaluation or
- (c.) the use of the part differs from that of previous evaluations.

If the part has been evaluated before and the part number has not changed, no further engineering review is necessary unless the supplier reports changes since the last time the part was evaluated.

2. The evaluation shall include a review of changes and their significance. The evaluation shall be performed as part of the ECN, DBCR or DM process. It may



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require an equivalency evaluation if the changes are significant. The technical evaluation shall find whether the part is a like-for-like replacement or an alternate replacement.

3. The technical evaluation shall take into account the seismic and environmental qualification of the host. Special emphasis shall be placed on items in harsh environments, such that non-metallic materials are evaluated for safety function. If it is determined that the materials have a safety function, then they shall be tested. Use the [REDACTED] for the evaluation.

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4. A like-for-like replacement requires no additional technical evaluation and the next step in this procedure may be taken.
5. If the part has been significantly changed, an equivalency evaluation shall be made. Parts that are equivalent are alternate replacements. If they are not equivalent, an evaluation shall be made to demonstrate the part is an acceptable substitute. Parts that are not acceptable substitutes require additional engineering design. The evaluation shall be documented with an attachment to a DBCR.

i. **Determination of Critical Characteristics**

1. A review of the part physically, functionally and materially shall be performed and critical characteristics identified. These shall be selected on the basis of the safety related application and environment (harsh, mild, seismic) in which the part is expected to function. The identified critical characteristics must be verifiable by one or more of the acceptance methods described in this procedure.
2. The responsible engineer shall consult with applicable technical interfaces (test, inspection, quality assurance) regarding the critical characteristics to ensure that they are measurable and reasonable to perform.

7. ENGINEERING DOCUMENTATION

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- a. The critical characteristics and their applicable acceptance attributes and/or values shall be documented on a [REDACTED]. This form shall become part of the engineering package and shall be filed with a database change request (DBCR) form in the document center.

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- b. The documentation for additional dedications of the same part but for different customers will be documented on [REDACTED] and filed in Quality Assurance records with the QA documentation for the particular customer order.

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- c. [REDACTED] shall be filed with the corresponding CCAP for SR CGIs requiring acceptance verification at receiving.

8. INDEPENDENT ENGINEERING REVIEW OF CGIEE FORMS



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- a. When the responsible engineer has completed the CGIEE documentation package, the package shall be independently reviewed by an engineering peer as determined by the Manager of Engineering. The reviewer shall assure that the applicable requirements of this procedure have been met. The independent reviewer will sign the engineering documentation.
- b. An additional Product Assurance Engineering review will be conducted to verify that the critical characteristics selected are measurable.

9. 10 CFR 21

When requested by the customer in the purchase order, ESI will assume responsibility for the 10CFR21 reporting requirements for the part. This requirement applies to each individual, corporation, partnership, dedicating entity or other entity subject to the regulations of 10CFR21.

10. CERTIFICATIONS

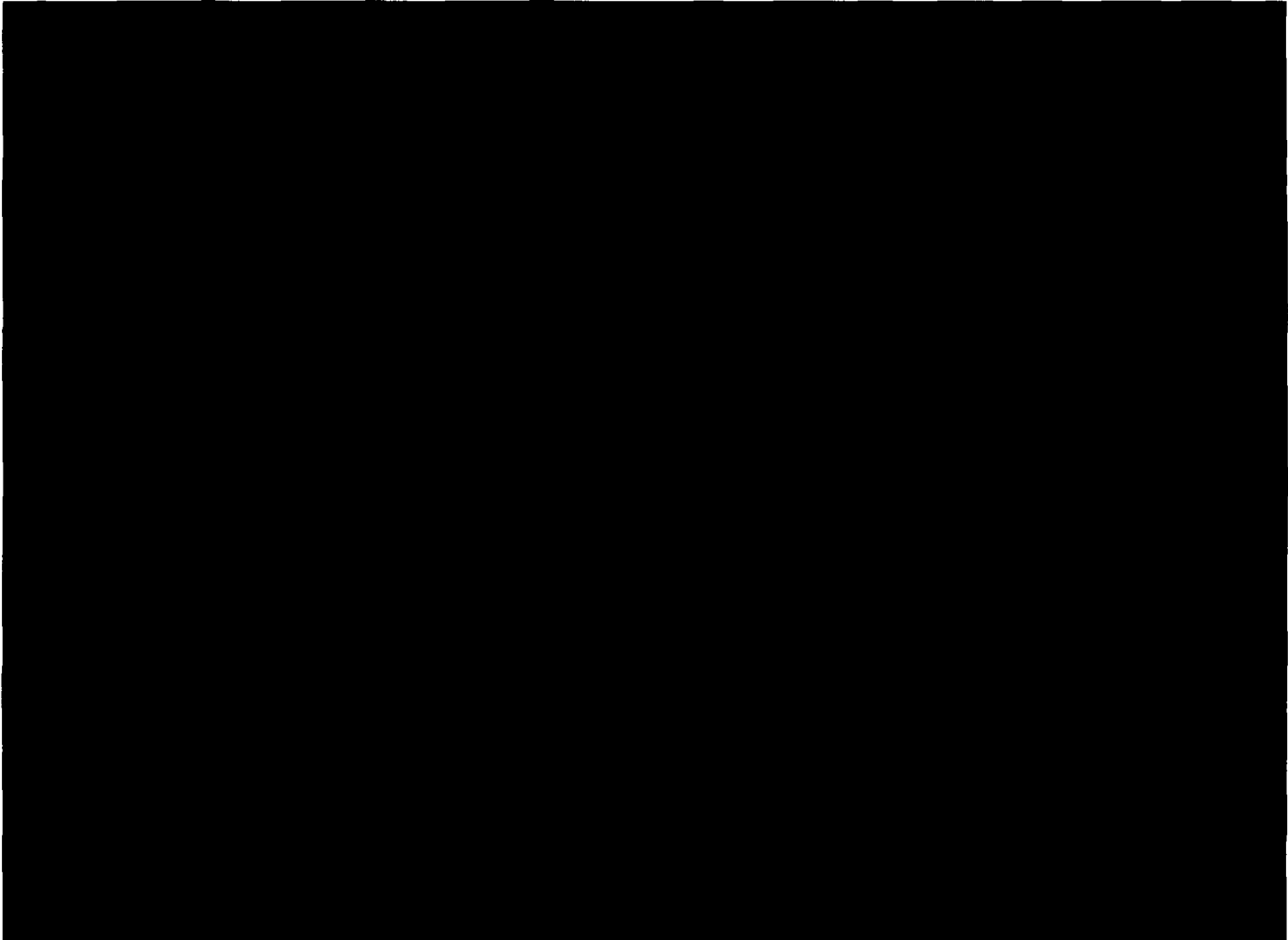
When ESI dedicates a CGI it becomes a SR basic component for use in specific assemblies at the customer's plant. A Certificate of Conformance and a Certificate of Dedication is provided with the shipment. The Certificate of Conformance shall indicate that the item's critical characteristics have been verified and the item is dedicated.



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11. FLOWCHARTS
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b.

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