NOV 15 1999

ENGINEERING DATA TRANSMITTAL

Page 1 of 1
1. EDT 617711

2. To: (Receiving Organization) 327 Deactivation Project		3. From: (Originating Organization) 327 Deactivation Project		4. Related EDT No.: NA	
5. Proj./Prog./Dept./Div.: 327 Deactivation Project		6. Design Auth./Design Agent/Cog. Eng.: TL Erickson / SK Fong		7. Purchase Order No.: NA	
8. Originator Remarks: This supporting document provides the documentation on the critical characteristics of commercial grade items as required by HNF-PRO-268, Control of Purchased Items and Services.				9. Equip./Component No.: NA	
				10. System/Bldg./Facility: 327/PITF	
11. Receiver Remarks:		11A. Design Baseline Document? ☒ Yes ☐ No		12. Major Assm. Dwg. No.: NA	
USO REVIEW Cat. Exclusion # <u>N/A</u> Scm/Eval. # <u>327-EDT-99-011</u> <u>SKF 11/5/99</u> <u>AKZ 11/5/99</u> Initials/Date Initials/Date				13. Permit/Permit Application No.: NA	
				14. Required Response Date: 11-10-99	

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(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Approval Designator	Reason for Transmittal	Originator Disposition	Receiver Disposition
1	HNF-5364	NA	0	CRITICAL CHARACTERISTICS OF COMMERCIAL GRADE ITEMS FOR BUILDING 327	SQ	1/2	1	1

16. KEY			
Approval Designator (F)	Reason for Transmittal (G)		Disposition (H) & (I)
E, S, Q, D or N/A (see WHC-CM-3-5, Sec.12.7)	1. Approval 2. Release 3. Information	4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)	1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)											
(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN
1/2	1	Design Authority:	<u>TL Erickson</u>	<u>11/5/99</u>	L1-02	1/2	1	Cog. Eng.:	<u>PM O'Brien</u>	<u>11-8-99</u>	L1-05
		Design Agent:	<u>SK Fong</u>	<u>11-5-99</u>		3		RD Brown			L1-03
1/2	1	Cog. Eng.:	<u>SK Fong</u>	<u>11/10/99</u>	L1-05	3		SM Eiholzer			L1-03
1/2	1	Cog. Mgr.:	<u>TL Erickson</u>	<u>11/10/99</u>	L1-02	3		DL Johnson			L1-05
1/2	1	QA:	<u>JN Nansen</u>	<u>11/5/99</u>	L5-65	3		SA Norton			L1-03
1/2	1	Safety:	<u>RJ Koll</u>	<u>05 NOV 99</u>	L6-57	3		RL Reading Rm.			H2-53
		Env.:				3		Central Files			B1-07

18. SK Fong <u>SK Fong</u> 11-4-99 Signature of EDT Date Originator		19. TL Erickson <u>TL Erickson</u> 11/4/99 Authorized Representative Date for Receiving Organization		20. TL Erickson <u>TL Erickson</u> 11/4/99 Design Authority/ Cognizant Manager Date		21. DOE APPROVAL (if required) Ctrl. No. NA ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments	

CRITICAL CHARACTERISTICS OF COMMERCIAL GRADE ITEMS FOR BUILDING 327

S. K. Fong
BWHC, Richland, WA 99352
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Abstract: This document will be used to document the critical characteristics of safety related items procured as commercial grade items to satisfy requirements in HNF-PRO-268, Control of Purchased Items and Services. The critical characteristics and the dedication methods will be listed in the form provided and attached to the appendix of the supporting document as required by this procedure.

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James Asrdal 11-15-99
Release Approval Date

Approved for Public Release

**CRITICAL CHARACTERISTICS OF COMMERCIAL GRADE ITEMS
FOR BUILDING 327**

**CRITICAL CHARACTERISTICS OF COMMERCIAL GRADE ITEMS
FOR BUILDING 327**

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CRITICAL CHARACTERISTICS OF COMMERCIAL GRADE ITEMS FOR BUILDING 327

1.0 PURPOSE

The purpose of this document is to specify the critical characteristics of Commercial Grade Items (CGI). CGI having these critical characteristics are considered acceptable for their intended use.

2.0 SCOPE

This document applies to CGI used in Safety Class and Safety Significant applications or in General Service applications involving high project risk at the 327 facility.

3.0 DEFINITIONS

Commercial Grade Item. An item that: (a) is not subject to design or specification requirements that are unique to nuclear facilities; (b) is used in applications other than nuclear facilities; and (c) is to be purchased from the manufacturer/supplier on the basis of specifications set forth in his published product description.

Conditioning. Modifications, treatments, and/or processes performed on a CGI to ensure it will perform its intended function.

Critical Characteristic. A property or attribute of an item's material composition, configuration, function, qualification, and/or identification that is: (a) essential for it to perform its intended function and (b) that can be verified through inspection and/or test.

Dedication. The process of conditioning, inspecting, and/or testing a CGI to ensure and document that it has the specified critical characteristics and is, therefore, acceptable for its intended use.

4.0 CRITICAL CHARACTERISTICS

There are five types of critical characteristics: material characteristics, configuration characteristics, functional characteristics, qualification characteristics, and identification characteristics.

4.1 Material Characteristics

Material characteristics relate to the physical attributes of the materials used in the manufacture of the item. These can include, but are not limited to chemical composition, ductility, hardness, concentration, tensile strength, density, resistance, conductivity, viscosity, capacitance, color, and permeability.

4.2 Configuration Characteristics

Configuration characteristics relate to the physical arrangement of the materials used in the manufacture of the item. These can include, but are not limited to dimensions, quantities, weights, shapes, surface finish, scales, and ranges.

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4.3 Functional Characteristics

Functional characteristics relate to the operation of the item. These can include, but are not limited to speed, time response, accuracy, repeatability, reliability, outputs (e.g., voltage, current, pressure, volume, and temperature), power, strength, capacity, leakage, and noise.

4.4 Qualification Characteristics

Qualification characteristics relate to specific qualifications and endorsements the item must meet to ensure it will perform its intended function. These can include, but are not limited to environmental and seismic qualifications, and endorsements from independent agencies and authorities (e.g., NFPA and UL).

4.5 Identification Characteristics

Identification characteristics relate to the markings and labels on the item or its container. These markings and labels can include, but are not limited to the manufacturer's item identification (e.g., part number, model number, and manufacturer's name) and other critical characteristics (e.g., size, type, range, weight, and pressure).

5.0 DEDICATION

Dedication methods include, but are not limited to conditioning, source inspection/testing, receiving inspection/testing, and pre/post installation inspection/testing.

5.1 Conditioning

Conditioning can include, but is not limited to modifications (e.g., adding reinforcement, removing interferences, and changing mounts and connectors), special treatments (e.g., heat treatments, applying special coatings, and surface finishing), and processes (e.g., burn-in and shaker tests), which are done to ensure the item will perform its intended function. Conditioning requirements shall be tied to specific critical characteristics, and shall be identified in applicable procurement documents (if a vendor performs the conditioning) and/or in work documents (if the conditioning is performed in-house) by inclusion or reference to the applicable attachment of this document.

5.2 Inspections and Tests

Critical characteristics that are to be verified during source/receiving inspections shall be identified in applicable procurement documents and Quality Assurance Inspection Plans. Critical characteristics that are to be verified during or after installation shall be identified in applicable work documents (e.g., JCS work packages and technical work plans). Critical characteristics may be identified in procurement documents, Quality Assurance Inspection Plans, and work documents by inclusion or reference to the applicable attachment of this document.

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6.0 MAINTENANCE OF THIS DOCUMENT

Critical characteristics and methods for their verification, and conditioning requirements, shall be specified by the Design Authority on the *Critical Characteristics form*. Each form shall be numbered to correspond with the discipline to which the item applies (i.e., C.1 would be the first CGI in the Civil/Structural section; E.1 for the electrical, I.1 for the instrumentation; and M.1 for the mechanical). The completed form shall be incorporated into this document as an attachment using an Engineering Change Notice (ECN). The ECN shall also update the Commercial Grade Item Index.

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FOR BUILDING 327

Critical Characteristics Form

Attachment _____

ITEM DESCRIPTION (including Part Numbers, Model Numbers, and Manufacturer's Name):	
Critical Characteristics	Dedication Methods
MATERIAL CHARACTERISTICS:	
CONFIGURATION CHARACTERISTICS:	
FUNCTIONAL CHARACTERISTICS:	
QUALIFICATION CHARACTERISTICS:	
IDENTIFICATION CHARACTERISTICS:	
CONDITIONING REQUIREMENTS:	

CRITICAL CHARACTERISTICS OF COMMERCIAL GRADE ITEMS
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COMMERCIAL GRADE ITEM INDEX

Commercial Grade Item Description

Attachment
Number

1. Civil/Structural Items

2. Electrical Items

Battery, sealed valve regulated lead acid, Best Power BAT0370
Light, pilot light, LED, 120 VAC-DC, 30 mm, heavy duty, oil/rain
tight, Square D, Class 9001, #KP38LRR31 or #KP38LGG31

E.1

E.2

3. Instrument Items

4. Mechanical Items

**CRITICAL CHARACTERISTICS OF COMMERCIAL GRADE ITEMS
FOR BUILDING 327**

ATTACHMENTS

(IN ALPHANUMERIC SEQUENCE)

**CRITICAL CHARACTERISTICS OF COMMERCIAL GRADE ITEMS
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Critical Characteristics Form

Attachment E.1

ITEM DESCRIPTION (including Part Numbers, Model Numbers, and Manufacturer's Name): Battery, sealed valve regulated lead acid, 12 VDC, replacements for Best Fortress UPS Model LI-660VAB P/N: BAT0370 UPS Manufacturer: Best Power Technologies, Inc.	
Critical Characteristics	Dedication Methods
MATERIAL CHARACTERISTICS: Sealed valve regulated lead acid battery.	Pre-installation inspection
CONFIGURATION CHARACTERISTICS: None.	
FUNCTIONAL CHARACTERISTICS: Voltage: 12 VDC Rating: 12V, 6.5 amp-hour @ 20 hr minimum or equivalent	Pre-installation inspection Pre-installation testing
QUALIFICATION CHARACTERISTICS: None.	
IDENTIFICATION CHARACTERISTICS: Best Power Technologies, Inc. P/N: BAT0370 (Note: The battery supplied may be manufactured by a vendor other than Best Power Technologies, Inc.)	Receiving inspection
CONDITIONING REQUIREMENTS: None.	

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Critical Characteristics Form

Attachment E.2

ITEM DESCRIPTION (including Part Numbers, Model Numbers, and Manufacturer's Name): Light, pilot light, LED, 120 VAC-DC, heavy duty, oil tight, water tight, 30.5 mm P/N (red lens): Class 9001, KP38LRR31, or P/N (green lens): Class 9001, KP38LGG31 Manufacturer: Square D	
Critical Characteristics	Dedication Methods
MATERIAL CHARACTERISTICS: Lamp type: LED	Pre-installation inspection
CONFIGURATION CHARACTERISTICS: Size: 30.5 mm configuration Other: Oil tight, rain tight	Pre-installation inspection
FUNCTIONAL CHARACTERISTICS: Voltage rating: 120 VAC-DC nominal	Pre-installation inspection Post-installation test
QUALIFICATION CHARACTERISTICS: UL listed	Pre-installation inspection
IDENTIFICATION CHARACTERISTICS: Square D, P/N (red lens): Class 9001, KP38LRR31 or P/N (greed lens): Class 9001, KP38LGG31	Receiving inspection
CONDITIONING REQUIREMENTS: None.	