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BD-7400-172-1

CONDUIT FASTENERS

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Abstract: W-441, Cold Vacuum Drying Facility, Conduit Fasteners

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9/11/99

Date

Release Stamp

Approved for Public Release

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. NA	CGI No. CGI-SNF-D-93-2-C1-056	Page 1 of 20
Title: CONDUIT FASTENERS		

Section 1 Part Information		
Item No.: NA	Manufacturer:	Supplier:
Mfg. Part/Model No.:	Supplier's P/N:	
Part Description:		
End Use Description:		

Section 2a Component Information			
Equipment No.: See attached Section 9	Specification No.: W-441-C1, Section 16110	Manufacturer: ABC Fasteners; PowerStrut	Past P.O. No.: NA
Procurement and/or Model No.: See attached Section 9	Equipment Supplier (if different from manufacturer): American Electric		Equip. Supplier's Part No.: NA

Component Description: **Fasteners for Safety Class Wiring Conduit.**

Section 2b Commercial Availability of the Item								
<p>1. Is the Item available from a catalogue of a qualified NQA1 supplier? (coordinate with project CGI interface Engineer or BTR)</p> <p>☐ YES (go to #2 below)</p> <p>☒ NO (go to procedure step 6.3.2, proceed to dedicate Item.)</p> <p>If not available from a qualified NQA1 supplier, is it available from an ISO 9000 supplier? (coordinate with project CGI interface Engineer or BTR)</p> <p>☐ YES (go to #2 below, then go to procedure step 6.3.2, proceed to dedicate Item)</p> <p>☒ NO (go to procedure step 6.3.2, proceed to dedicate item.)</p>								
<p>2. List of Candidate qualified suppliers or ISO 9000 suppliers</p> <table border="1"> <thead> <tr> <th>company name & type</th> <th>contact name</th> <th>phone</th> </tr> </thead> <tbody> <tr> <td colspan="3">NA</td> </tr> </tbody> </table>			company name & type	contact name	phone	NA		
company name & type	contact name	phone						
NA								
<p>3. Recommended Procurement Strategy (coordinate with project CGI interface Engineer or BTR):</p> <p>NA</p>								

Section 2c CGI Determination	
<p>1. Question #1: Is the Item subject to design or specification requirements that are unique to nuclear facilities or activities?</p> <p>☐ YES (the Item is not commercial grade)</p> <p>☒ NO (continue)</p>	
<p>2. Question #2: Is the Item used in applications other than nuclear facilities or activities?</p> <p>☐ NO (the item is not commercial grade)</p> <p>☒ YES (continue)</p>	
<p>3. Question #3: Is the Item ordered from manufacturer/supplier on the basis of specifications set forth in the published product information (e.g. manufacturer's catalog)?</p> <p>☐ NO (the Item is not commercial grade)</p> <p>☒ YES (continue)</p>	

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. NA	CGI No. CGI-SNF-D-93-2-C1-056	Page 2 of 20
Title: CONDUIT FASTENERS		

[X] All three criteria have been satisfied. The Item meets the definition of commercial grade.	
Section 2d Reason for Dedication	
The above described item is being Dedicated for use in the application cited for the following reason(s):	
[X]	Item is being purchased from a non ESL manufacturer supplier as commercial grade to be used in a Safety Class application.
[]	Item is being purchased from a non ESL manufacturer supplier as commercial grade to be used in a Safety Significant application.
[]	Item was purchased from a non ESL manufacturer supplier as commercial grade to be used in a Safety Class application.
[]	Item was purchased from a non ESL manufacturer supplier as commercial grade to be used in a Safety Significant application.
[]	Other ('like-for-like', similar, substitution, replacement evaluation)
Section 3 Failure Effects Evaluation	
A. Part/Component Safety Function:	
1. Provide conduit protection, structural support for safety class wiring conduit.	
2. Maintain critical function before, during, and after Seismic Event.	
B. Part/Component Functional Mode:	
Safety Function #1:	
[]	Active – Mechanical or Electrical change of state is required to occur for the component to perform its safety function
[X]	Passive – Change of state is not required for the component to perform its safety function
Safety Function #2:	
[]	Active – Mechanical or Electrical change of state is required to occur for the component to perform its safety function.
[X]	Passive – Change of state is not required for the component to perform its safety function
Safety Function #3:	
[]	Active – Mechanical or Electrical change of state is required to occur for the component to perform its safety function.
[]	Passive – Change of state is not required for the component to perform its safety function
C. Host Component Safety Function (if applicable): NA	
1.	
D. Failure Mode(s) and the effects on component or system safety function (see Worksheet 1):	
1. Fracture or material fatigue leads to loss of structural support and possible damage to wiring.	

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. NA	CGI No. CGI-SNF-D-93-2-C1-056	Page 3 of 20
Title: CONDUIT FASTENERS		

Section 4 Environmental & Natural Phenomena Hazard Design		
Environmental Qualification Required: Yes ☐ No ☒	If yes: Environmental Qualification Requirements Limiting Environmental Conditions: Required Safety Functions: Qualification Period:	
Environmental Condition B		
Natural Phenomena Hazard (NPH) Design Required: Yes ☒ No ☐	If yes: NPH Design Requirements Performance Category: PC-3 NPH Design Req'ts.: Seismic Condition C Required Safety Functions: Provide protection and support for safety class wiring conduit. Maintain critical function before, during, and after Seismic Event.	
HNF-PRO-097, Rev. 0		
Section 5 Component Functional Classification		
☒ Safety Class (SC)	☐ General Service (GS)	☐ Safety Significant (SS)
If part/component classification is different from host component/system, document basis. NA		
Section 6 (Reserved)		
Section 7 (Reserved)		
Section 8 References (for Functional Classification)		
National Codes/Standards: IEEE 628	Safety Analysis Report (SAR): HNF-SD-SNF-SAR-002, Rev. 4A	Drawings: HNF-SD-SNF-SEL-002, Rev. 6A Dwg. H-1-82303
Vendor Manual/Manufacturer/Supplier Information: Fender Washers, Lock Washers, Flat Washers, Hex Head Bolts - ABC Fasteners Page 2-1; PS-146 Continuous Threaded Rod/Clamping Nut with spring - Power Strut Pages 40, 42		
Other:		

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. <u>NA</u>	CGI No. <u>CGI-SNF-D-93-2-C1-056</u>	Page 4 of 20
Title: <u>CONDUIT FASTENERS</u>		

Section 9 Critical Characteristics				
Critical Characteristics Verification Document:	Acceptance Criteria/Tolerances	Acceptance Method	ID	Function
HNF-SD-SNF-SEL-002, Rev. 6A DWG. H-1-82303				
1. Item Identification Critical Characteristics (necessary for reasonable assurance that the Item delivered is the Item specified)				
Fender, Flat, and Lock Washer, Page 2-1, Manufacturer	ABC Fasteners	1, IN	X	
Fender, Flat and Lock Washer - Component Number- Procurement and/or Model Number Fender Flat Lock	20004 20008 20015 18020 18025 18030 18035 19020 19025 19030 19035	1, IN	X	
Fender, Flat, and Lock Washer, - Size, inches Fender, 20004 20008 20015 Flat, 18020 18025 18030 18035 Lock 19020 19025 19030 19035	1/4" x 1 1/4" 3/8" x 1 1/2" 1/2" x 2" #1/4 #5/16 #3/8 #1/2 #1/4 #5/16 #3/8 #1/2	1, IN	X	
Hex Nuts, Page 2-1, Manufacturer	ABC Fasteners	1, IN	X	

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. <u>NA</u>	CGI No. <u>CGI-SNF-D-93-2-C1-056</u>	Page 5 of 20
Title: <u>CONDUIT FASTENERS</u>		

Hex Nuts, - Component Number- Procurement and/or Model Number	17025 17030 17035 17040	1, IN	X	
Hex Nuts, - Size/Thread, inch	17025 17030 17035 17040	1/4 - 20 5/16 - 18 3/8 - 16 1/2 - 13	1, IN	X
Hex Head Bolts, Page 2-1, Manufacturer	ABC Fasteners	1, IN	X	
Hex Head Bolts, - Component Number- Procurement and/or Model Number		1, IN	X	
1/4 inch	38110 38111 38112 38113 38114 38115			
5/16 inch	38126 38127 38128			
3/8 inch	38141 38142 38143 38144			

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0	
ECN No. <u>NA</u>	CGI No. <u>CGI-SNF-D-93-2-C1-056</u>	Page 6 of 20	
Title: <u>CONDUIT FASTENERS</u>			

Hex Head Bolts, - Size - Thread x Length, inch 38110 38111 38112 38113 38114 38115 38126 38127 38128 38141 38142 38143 38144	1/4 - 20 x 1/2 1/4 - 20 x 3/4 1/4 - 20 x 1 1/4 - 20 x 1 1/4 1/4 - 20 x 1 1/2 1/4 - 20 x 2 5/16 - 18 x 3/4 5/16 - 18 x 1 5/16 - 18 x 1 1/4 3/8 - 16 x 3/4 3/8 - 16 x 1 3/8 - 16 x 1 1/4 3/8 - 16 x 1 1/2	1, IN		
Fasteners, Pages 40 and 42 Manufacturer PS 146 Continuous Threaded Rod PS RS Clamping Nut with Regular Spring. PS RS - Size x Thread	Powerstrut Nominal 3/8" Nominal 1/2" Nominal 5/8" Nominal 3/4" 1/4" x 20 3/8" x 16 1/2" x 13 5/8" x 11 3/4" x 10 7/8" x 9	1, IN	X	
2. Physical Critical Characteristics (for reasonable assurance that the Item delivered is the Item specified)				
Fender, Flat, and Lock Washer, Material	Zinc Coated Steel (Note 3)	1, IN 1, T	X	
Hex Nuts, Material	Zinc Coated Steel (Note 3)	1, IN 1, T	X	
Hex Head Bolts, Material	Zinc Coated Steel (Note 3)	1, IN 1, T	X	

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. <u>NA</u>	CGI No. <u>CGI-SNF-D-93-2-C1-056</u>	Page 7 of 20
Title: <u>CONDUIT FASTENERS</u>		

Fasteners, PS 146 Continuous Threaded Rod, Material PS RS Clamping Nut with Regular Spring, Material	Steel (Note 3) Steel (Note 3)	1, IN 1, T	X	
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3. Performance Critical Characteristics (for reasonable assurance that the Item will perform its intended safety function(s))

Environmental	Note 1			
Seismic Condition C	Note 2	1, T 1, A		X

4. Notes and Legend:

- The components are not subject to degradation from the 40°F or 60% RH or 115°F and 22% RH conditions and are suitable for Environmental Condition B application.
- Maintain critical function before, during, and after Seismic event. Equipment that has been shaker-table tested should not be installed in a plant (Ref. IEEE Standard 344-1984, Section 7). Consequently, the seismic test constitutes a destructive test. Seismic Design may be verified by analysis of the installed conduit system.
- Material verification acceptance method may be by either inspection or test.

Acceptance Method:

- Special Test and Inspection
 - IN for Inspection
 - T for Test
 - A for Acceptance by Analysis
- Commercial Grade Survey
- Source Verification
- Vendor/Item History

Section 10 Initial Review and Approval

Approvals:

Designated Engineer:

Design Authority:

QA Engineer:

[Signature] 9/1/99

[Signature] 9/1/99

[Signature] 9/1/99

NOTE: SEISMIC ADEQUACY WAS REVIEWED BY
ERNIE (EDM) .
CLE MA

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. NA	CGI No. CGI-SNF-D-93-2-C1-056	Page 8 of 20
Title: CONDUIT FASTENERS		

WORKSHEET 1 DETERMINATION OF FAILURE MECHANISMS/MODES		
Section 1		
Typical Failure Mechanisms	Definition	Applicable to Component under Evaluation
Fracture	Separation of a solid accompanied by little or no macroscopic plastic deformation.	Yes ☒ No ☐ ; If Yes, indicate failure Mode: <u>Fracture or material fatigue-loss of structural protection to wiring</u>
Corrosion	The gradual deterioration of a material due to chemical or electrochemical reactions, such as oxidation, between the material and its environment.	Yes ☐ No ☒ ; If Yes, indicate failure Mode _____
Erosion	Destruction of materials by the abrasive action of moving fluids, usually accelerated by the presence of solid particles carried with the fluid.	Yes ☐ No ☒ ; If Yes, indicate failure Mode _____
Open Circuit	An electrical circuit that is unintentionally broken so that there is no complete path for current flow.	Yes ☐ No ☒ ; If Yes, indicate failure Mode _____
Short Circuit	An abnormal connection by which an electrical current is connected to ground, or to some conducting body, resulting in excessive current flow.	Yes ☐ No ☒ ; If Yes, indicate failure Mode _____
Blockage	Clogging of a filtering medium resulting in the inability to perform its purification function or blockage of flow.	Yes ☐ No ☒ ; If Yes, indicate failure Mode _____
Seizure	Binding of a normally moving item through excessive pressure, temperature, friction, jamming.	Yes ☐ No ☒ ; If Yes, indicate failure Mode _____
Unacceptable Vibration	Mechanical oscillations produced are beyond the defined permissible limits due to unbalancing, poor support, or rotation at critical speeds.	Yes ☐ No ☒ ; If Yes, indicate failure Mode _____
Loss of Properties	A loss of mechanical and physical properties of a material due to exposure to high temperatures, radiation exposure.	Yes ☐ No ☒ ; If Yes, indicate failure Mode _____
Excess Strain	Under the action of excessive external forces the material of the part has been deformed or distorted.	Yes ☒ No ☐ ; If Yes, indicate failure Mode; <u>Material fatigue leads to loss of structural support and enclosure of wiring</u>
Mechanical Creep	From prolonged exposure to high temperature and stress, the object will show a slow change in its physical (shape and dimension) and mechanical characteristics.	Yes ☐ No ☒ ; If Yes, indicate failure Mode _____
Ductile Fracture	Fracture characterized by tearing of metal accompanied by appreciable gross plastic deformation.	Yes ☒ No ☐ ; If Yes, indicate failure Mode: <u>Fracture or material fatigue – loss of structural support and protection of wiring</u>
Section 2. Additional Failure Modes Applicable to the Component Under Evaluation		
1.		
2.		

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. NA	CGI No. CGI-SNF-D-93-2-C1-056	Page 9 of 20
Title: CONDUIT FASTENERS		

CHECKLIST 1
ACCEPTANCE METHOD 1
SPECIAL TEST/INSPECTION VERIFICATION

SECTION 1			
Item Description: Fasteners for Safety Class Wiring Conduit.		Equip #: NA	
System #: 93-2		Procurement and/or Model #: See Catalog Numbers in Section 8 and Characteristics in Section 9.	
Manufacturer (Address/Phone): Various - See Sections 8 and 9.		Supplier (Address/Phone):	
P.O. #			
SECTION 2 CRITICAL CHARACTERISTICS TO BE VERIFIED BY METHOD 1.			
Insp	Test	Post-Test	
☒	☐	☐	1. Fender, Flat, and Lock Washers
☒	☐	☐	2. Hex Nuts
☒	☐	☐	3. Hex Head Bolts
☒	☐	☐	4. Fasteners
☒	☒	☐	5. Material, Fender, Flat, and Lock Washers (Verification may be by either inspection or by test)
☒	☒	☐	6. Material, Hex Nuts (Verification may be by either inspection or by test)
☒	☒	☐	7. Material, Hex Head Bolts (Verification may be by either inspection or by test)
☒	☒	☐	8. Material, Fasteners (Verification may be by either inspection or by test)
☐	☒	☐	9. Seismic Condition C (Seismic verification may be by test or by analysis)
SECTION 3 VERIFIED BY INSPECTION			
* See Attachment H of Desk Instruction for Sampling Size: Reduced Sampling Plan Was Selected Due to The Product History and Simplicity of Product			
Characteristic: Manufacturer, Fender, Flat, and Lock Washers			
Sample Size*: REDUCED SAMPLING PLAN			
Acceptance Criteria: ABC Fasteners			
As Found: _____ Passed: Y / N (Circle)			
Receipt Inspection Plan / Report #: _____			
References (see Section 8): _____			

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. NA	CGI No. CGI-SNF-D-93-2-C1-056	Page 10 of 20
Title: CONDUIT FASTENERS		

Characteristic: **Fender, Flat, and Lock Washers - Component Number- Procurement and/or Model Number and Size, inches**

Sample Size*: **REDUCED SAMPLING PLAN**

ID Number/Acceptance Criteria:

Fender	20004	1/4 x 1 1/4
	20008	3/8 x 1 1/2
	20015	1/2 x 2
Flat	18020	#1/4
	18025	#5/16
	18030	#3/8
	18035	#1/2
Lock	19020	#1/4
	19025	#5/16
	19030	#3/8
	19035	#1/2

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

Characteristic: **Hex Nuts, Manufacturer**

Sample Size*: **REDUCED SAMPLING PLAN**

Acceptance Criteria: **ABC Fasteners**

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

Characteristic: **Hex Nuts - Component Number- Procurement and/or Model Number and Size/Thread, inches**

Sample Size*: **REDUCED SAMPLING PLAN**

ID Number - Size / Acceptance Criteria:

17025	1/4 - 20
17030	5/16 -18
17035	3/8 - 16
17040	1/2 - 13

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

Commercial Grade Item Upgrade Dedication Form

SNF-5102 Rev. 0

ECN No. **NA** CGI No. **CGI-SNF-D-93-2-C1-056**

Page 11 of 20

Title: **CONDUIT FASTENERS**Characteristic: **Hex Head Bolts - Manufacturer**Sample Size*: **REDUCED SAMPLING PLAN**Acceptance Criteria: **ABC Fasteners**

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

Characteristic: **Hex Head Bolts - Component Number- Procurement and/or Model Number - Size/Thread and Length, inches**Sample Size*: **REDUCED SAMPLING PLAN**

ID Number - Size - Thread - Length / Acceptance Criteria:

1/4	38110	1/4 - 20 x 1/2
	38111	1/4 - 20 x 3/4
	38112	1/4 - 20 x 1
	38113	1/4 - 20 x 1 1/4
	38114	1/4 - 20 x 1 1/2
	38115	1/4 - 20 x 2

5/16	38126	5/16 - 18 x 3/4
	38127	5/16 - 18 x 1
	38128	5/16 - 18 x 1 1/4

3/8	38141	3/8 - 16 x 3/4
	38142	3/8 - 16 x 1
	38143	3/8 - 16 x 1 1/4
	38144	3/8 - 16 x 1 1/2

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

Characteristic: **Manufacturer, Fasteners**Sample Size*: **REDUCED SAMPLING PLAN**Acceptance Criteria: **Powerstrut**

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. <u>NA</u>	CGI No. <u>CGI-SNF-D-93-2-C1-056</u>	Page 12 of 20
Title: CONDUIT FASTENERS		

Characteristic: **Fasteners - Component Number- Procurement and/or Model Number and Size, inches**

Sample Size*: **REDUCED SAMPLING PLAN**

ID Number - Size/Acceptance Criteria: **PS 146 Continuous Threaded Rod / Nominal 3/8"**

/ Nominal 1/2"

/ Nominal 5/8"

/ Nominal 3/4"

PS RS Clamping Nut with Regular Spring / 1/4" x 20

Size x Thread **/ 3/8" x 16**

/ 1/2" x 13

/ 5/8" x 11

/ 3/4" x 10

/ 7/8" x 9

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

Characteristic: **Material, Fender, Flat, and Lock Washers**

Sample Size*: **REDUCED SAMPLING PLAN**

Acceptance Criteria: **Zinc Coated Steel**

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

Characteristic: **Material, Hex Nuts**

Sample Size*: **REDUCED SAMPLING PLAN**

Acceptance Criteria: **Zinc Coated Steel**

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

Characteristic: **Material, Hex Head Bolts**

Sample Size*: **REDUCED SAMPLING PLAN**

Acceptance Criteria: **Zinc Coated Steel**

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. <u>NA</u>	CGI No. <u>CGI-SNF-D-93-2-C1-056</u>	Page 13 of 20
Title: CONDUIT FASTENERS		

Characteristic: Material, Fasteners Sample Size*: REDUCED SAMPLING PLAN Acceptance Criteria: PS 146 Continuous Threaded Rod. Steel PS RS Clamping Nut with Regular Spring. Steel As Found: _____ Passed: Y / N (Circle) Receipt Inspection Plan / Report #: _____ References (see Section 8): _____	
SECTION 4 VERIFIED BY SPECIAL TEST	
* See Attachment H of Desk Instruction for Sampling Size	
Test To Be Performed by: ☐ Purchaser ☐ Supplier/Manufacturer** ☐ Other	Number of Items to be Tested: Reduced Sampling Plan Was Selected Due To The Product History and Simplicity Of Product Test/Inspection Location:
Characteristic for Test: Seismic Condition C - All Items Acceptance Criteria: Maintain Critical Function Before, During, and After Seismic Event. Sample Size*: Sample Size is NA because seismic verification of the installed conduit system with fittings, supports, etc, will be done by analysis. Physical testing is not anticipated. Actual Test Value: Test Plan and Report #: _____ References (see Section 8): _____	

** If Supplier/Manufacturer or Other, Refer to CGI Checklist-2 for Support Information

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. <u>NA</u>	CGI No. <u>CGI-SNF-D-93-2-C1-056</u>	Page 14 of 20
Title: <u>CONDUIT FASTENERS</u>		

Section 5 Test / Inspection Summary (Acceptance Method 1)											
1. SUMMARY OF VERIFIED CRITICAL CHARACTERISTICS , THEIR VERIFICATION METHODS, AND RESULTS											
ITEM DESCRIPTION:											
Critical Characteristics					Verification Results						
Critical Characteristics	Acceptance Criteria/Tolerances	ID	Function	Method T/IN	Procedure or RR#	Check-list ID	Number Tested	Number Failed	Verifying Organization	Printed Name Signature	Date
Fender, Flat, and Lock Washer - Manufacturer	ABC Fasteners	X		IN							
Fender, Flat and Lock Washer - Component Number- Procurement and/or Model Number	20004 20008 20015	X		IN							
Fender											
Flat	18020 18025 18030 18035										
Lock	19020 19025 19030 19035										

Commercial Grade Item Upgrade Dedication Form

SNF-5102 Rev. 0

Page 15 of 20

ECN No. NA CGI No. CGI-SNF-D-93-2-C1-056

Title: CONDUIT FASTENERS

Critical Characteristics					Verification Results						
Critical Characteristics	Acceptance Criteria/Tolerances	ID	Function	Method T/IN	Procedure or RR#	Check- list ID	Number Tested	Number Failed	Verifying Organization	Printed Name Signature	Date
Fender, Flat, and Lock Washer, - Size, inches		X		IN							
Fender 20004	1/4" x 1 1/4"										
20008	3/8" x 1 1/2"										
20015	1/2" x 2"										
Flat											
18020	#1/4										
18025	#5/16										
18030	#3/8										
18035	#1/2										
Lock											
19020	#1/4										
19025	#5/16										
19030	#3/8										
19035	#1/2										
Hex Nuts - Manufacturer	ABC Fasteners	X		IN							
Hex Nuts, - Component Number- Procurement and/or Model Number		X		IN							
	17025										
	17030										
	17035										
	17040										
Hex Nuts, - Size - Thread, inch		X		IN							
17025	1/4 - 20										
17030	5/16 - 18										
17035	3/8 - 16										
17040	1/2 - 13										

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. <u>NA</u>	CGI No. <u>CGI-SNF-D-93-2-C1-056</u>	Page 16 of 20
Title: <u>CONDUIT FASTENERS</u>		

Critical Characteristics				Verification Results							
Critical Characteristics	Acceptance Criteria/Tolerances	ID	Function	Method T/TN	Procedure or RR#	Check- list ID	Number Tested	Number Failed	Verifying Organization	Printed Name Signature	Date
Hex Head Bolts - Manufacturer	ABC Fasteners	X		IN							
Hex Head Bolts, - Component Number- Procurement and/or Model Number 1/4 inch		X		IN							
	38110										
	38111										
	38112										
	38113										
	38114										
	38115										
	38126										
5/16 inch	38127										
	38128										
	38141										
3/8 inch	38142										
	38143										
	38144										

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. NA	CGI No. CGI-SNF-D-93-2-C1-056	Page 17 of 20
Title: CONDUIT FASTENERS		

Critical Characteristics				Verification Results							
Critical Characteristics	Acceptance Criteria/Tolerances	ID	Function	Method T/IN	Procedure or RR#	Check- list ID	Number Tested	Number Failed	Verifying Organization	Printed Name Signature	Date
Hex Head Bolts, - Size - Thread x Length, inch		X		IN							
38110	1/4 - 20 x 1/2										
38111	1/4 - 20 x 3/4										
38112	1/4 - 20 x 1										
38113	1/4 - 20 x 1 1/4										
38114	1/4 - 20 x 1 1/2										
38115	1/4 - 20 x 2										
38126	5/16 - 18 x 3/4										
38127	5/16 - 18 x 1										
38128	5/16 - 18 x 1 1/4										
38141	3/8 - 16 x 3/4										
38142	3/8 - 16 x 1										
38143	3/8 - 16 x 1 1/4										
38144	3/8 - 16 x 1 1/2										

Commercial Grade Item Upgrade Dedication Form

SNF-5102 Rev. 0

ECN No. **NA**

CGI No. **CGI-SNF-D-93-2-C1-056**

Page 18 of 20

Title: **CONDUIT FASTENERS**

Critical Characteristics				Verification Results							
Critical Characteristics	Acceptance Criteria/Tolerances	ID	Function	Method T/TN	Procedure or RR#	Check- list ID	Number Tested	Number Failed	Verifying Organization	Printed Name Signature	Date
Fasteners - Manufacturer PS 146 Continuous Threaded Rod PS RS Clamping Nut with Regular Spring PS RS Size x Thread	Powerstrut	X		IN							
	Nominal 3/8"										
	Nominal 1/2"										
	Nominal 5/8"										
	Nominal 3/4"										
	1/4" x 20										
	3/8" x 16										
	1/2" x 13										
	5/8" x 11										
	3/4" x 10										
	7/8" x 9										
Material Identification:											
Fender, Flat, and Lock Washer	Zinc Coated Steel	X		IN, T							
Hex Nuts	Zinc Coated Steel	X		IN, T							
Hex Head Bolts	Zinc Coated Steel	X		IN, T							
Fasteners, PS 146 Continuous Threaded Rod.	Steel	X		IN, T							
PS RS Clamping Nut with Regular Spring.	Steel										

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. NA	CGI No. CGI-SNF-D-93-2-C1-056	Page 19 of 20
Title: CONDUIT FASTENERS		

Critical Characteristics				Verification Results							
Critical Characteristics	Acceptance Criteria/Tolerances	ID	Function	Method T/JN	Procedure or RR#	Check- list ID	Number Tested	Number Failed	Verifying Organization	Printed Name Signature	Date
Seismic Condition C	Maintain Critical Function Before, During, and After Seismic Event. Seismic verification of the installed conduit system will be provided by analysis.		X	Analysis is							
2. DISPOSITION OF UNVERIFIED OR FAILED CRITICAL CHARACTERISTICS											
Critical Characteristic				Disposition							
3. SIGNATURE INDICATES ALL CRITICAL CHARACTERISTICS VERIFIED SATISFACTORY OR ACCEPTABLY DISPOSITIONED AND COMMERCIAL GRADE DEDICATION IS SATISFACTORY AND COMPLETE.											
Testing Agency Approval: _____				Design Authority: _____				BUYER VERIFICATION			
Testing Agency QA Engineer: _____				QA Engineer: _____				Date _____			

Commercial Grade Item Upgrade Dedication Form		SNF-5102 Rev. 0
ECN No. <u>NA</u>	CGI No. <u>CGI-SNF-D-93-2-C1-056</u>	Page 20 of 20
Title: <u>CONDUIT FASTENERS</u>		

SECTION 6 CONTACTS / PHONE NUMBERS	
Name	Phone
Design Authority	()
QA	()
QC	()
Cog - Engineer	()
CGI Engineer	()
Procurement Engineer	()
Other	()
SECTION 7 SUPPORTING DOCUMENTATION FOR THIS CHECKLIST	
Initial Procurement Documents	For Critical Characteristics
☐ Drawings:	
☐ Manuals (specify type & number):	
☐ Design Calculations	
☐ Installation Instructions	
☐ Operation Instructions	
☐ Calibration Instructions	
☐ Manufacturer's Recommended Spare Parts List	
☐ Other:	
Procurement Documents	
☐ Certificate of Conformance/Compliance	
☐ Seismic Qualification Certificate	
☐ Environmental Qualification Certificate	
☐ Test Report (s):	
☐ Inspection Report (s):	
☐ CMTRs for ASME Pressure Retaining Materials	
☐ Valve Seat Leakage Report	
☐ Weld Records	
☐ Material Traceability Record	
☐ Other:	

[illegible]