

ORGANIZATION: SIEMENS-ALLIS, INC., SWITCHGEAR DIVISION
RALEIGH, NORTH CAROLINA

REPORT NO.: 99900773/82-01	INSPECTION DATE(S) 2/11-12/82	INSPECTION ON-SITE HOURS: 8
CORRESPONDENCE ADDRESS: Siemens-Allis, Inc. Switchgear Division ATTN: Mr. H. A. Hincks, General Manager P. O. Box 29503 Raleigh, NC 27626		
ORGANIZATIONAL CONTACT: Mr. Leonard C. Majkowski, Manager Quality Assurance TELEPHONE NUMBER: (919) 365-6660 ex. 314		
PRINCIPAL PRODUCT: Electrical Switchgear		
NUCLEAR INDUSTRY ACTIVITY: Siemens-Allis, Inc., Switchgear Division (SA1-SD) supplies electrical switchgear for electrical generating and industrial plants. SA1-SD nuclear involvement represents less than one half of one percent of their total production.		
ASSIGNED INSPECTOR: <u>Wm. D. Kelley</u> Wm. D. Kelley, Reactive & Components Program Section (R&CPS)		<u>3/18/82</u> Date
OTHER INSPECTOR(S):		
APPROVED BY: <u>I. Barnes</u> I. Barnes, Chief, R&CPS		<u>3/18/82</u> Date
INSPECTION BASES AND SCOPE: A. <u>BASES</u> : 10 CFR Part 50, Appendix B. B. <u>SCOPE</u> : This inspection was made as a result of the identification by the Carolina Power and Light Company, that the dimensions of 6.9 KV switchgear supports and anchor bolts furnished to Shearon Harris, Unit 1, for instal- lation in the auxiliary building, may not meet final seismic requirements.		
PLANT SITE APPLICABILITY: Docket No. 50-400		
DESIGNATED ORIGINAL Certified By <u>Rheanne Jouts</u>		

ORGANIZATION: SIEMENS-ALLIS, INC., SWITCHGEAR DIVISION
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REPORT NO.: 99900773/82-01	INSPECTION RESULTS:	PAGE 2 of 3
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A. VIOLATIONS:
None.

B. NONCONFORMANCES:
None.

C. UNRESOLVED ITEMS:
None.

D. OTHER FINDINGS OR COMMENTS:
Construction Deficiency Report by Carolina Power and Light Company (CP&L):
Problem reported was undersized embedment depth of the sill channels and undersized bolt hole dimensions in the rear sill channel supplied for non-Class 1E seismically-designed 6.9 KV switchgear.

The non-Class 1E 6.9 KV and 4.16 KV switchgear were purchased by Ebasco Service Incorporated (ESI) on their purchase order NY-435113 in accordance with their specification 255-72. The specification states that the equipment is not classified as Class 1E; however, it must be seismically qualified to demonstrate that the equipment and its supports are designed to maintain structural integrity during and after a Design Basis Earthquake. The specification states in a note that the Reactor Coolant Pump breakers, Bus PT Cubicles and associated equipment require full Class 1E qualification; thus, safety-related equipment was installed in the nonsafety related 6.9 KV switchgear cabinet that was to be installed in the CP&L Shearon Harris Nuclear Power Plant, Unit 1, Reactor Auxiliary Building.

ESI requested in their letter of December 14, 1978, that SAI-SD (West Allis, Wisconsin) make arrangements for shipping the sill channels and confirm the shipping date by January 5, 1979. SAI-SD evaluated their standard sill channels as being adequate and shipped them to the Shearon Harris Nuclear Power Plant on April 16, 1979; however, the shipment of the switchgear did not commence until April 25, 1980. During this period Qualification Report No. 90365-1 for Class 1E 6.9 KV switchgear per IEEE 323/1974, dated July 21, 1980, was submitted to ESI. The report states in Section III "Stress Analyses" that the switchgear sill channels were to be

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RALEIGH, NORTH CAROLINA

REPORT NO.: 99900773/82-01	INSPECTION RESULTS:	PAGE 3 of 3
<p>4-inch X 2½-inch 13.8 pounds per foot channel; however, the report assumes 5/8-inch diameter bolts and gives the loads to which they will be subjected. ESI required in their letter of September 16, 1980, that a factor of 1.5 be applied to design basis earthquake. On September 25, 1980, SAI-SD (Raleigh, NC) sent a telegram to their New York sales office requesting them to notify ESI that each anchor bolt for the rear sill channel must have the capacity for 10,480 pounds in tension and 18,816 pounds in shear. ESI advised SAI-SD that the anchor bolts for the rear sill channel would be 1-inch in diameter and the replacement sill channel for the non-Class 1E switchgear was shipped from SAI-SD (West Allis Wisconsin) on December 19, 1980.</p>		

PERSONS CONTACTED

Company Siemens-Allis, Inc.

Dates Feb 11-12, 1982

Docket/Report No. 9990077 / 82-01

Inspector W^m D. Kelley

Page 1 of 3

NAME(Please Print)

TITLE(Please Print)

ORGANIZATION(Please Print)

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Inspector Wm A. Kelley
Scope 292705B

DOCUMENTS EXAMINED

Docket No. 99900773
Report No. 82-01
Page 2 of 3

Item No.	Doc. Type	TITLE/SUBJECT	Doc Date	Doc Rev
01	4	SAI-SG Quality Assurance Manual	11/1/78	
02	6	Ebasco Meeting Minutes - Raleigh N.C. Subject: 6.9-KV Metal-Clad Switchgear P.O. No NY-435112 & 435113	11/10/80	
03	8	SAI-SG Qualification Report No 90365-1 for 6900-Volt Switchgear Unit per IEEE 323/1974 for use in CP46 Cds Shearers Harris Nuclear Power Station	7/21/80	9/30/81
04	1	SAI-SG Drawing 18-735-354-401 Sheet F Anchor Welding	-	03
05	8	SAI-SG-Raleigh TX to SAI-NY Sales - Shear & Tension Loadings	9/25/80	
06	6	SAI-SG-Raleigh Subject: CP4L 1-1800-88460, 1-1800-90345	10/2/80	3
07	2	ESC Spec. 255-72 Subject: Metal Clad Switchgear Removable Circuit Breaker Type		
08	7	ESC to SAI-SG-West Allis, Wis. Subject: CP4LC Shearers Harris Nuclear Power Plant Unit 1-A, Purchase Order Numbers NY-435112 & NY-435113	12/14/78	
		6.9 Kv & 4.16 Kv Metal-Clad Switchgear		

Document Types:

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| 1. Drawing | 5. Purchase Order |
| 2. Specification | 6. Internal Memo |
| 3. Procedure | 7. Letter |
| 4. QA Manual | 8. Other (Specify-if necessary) |

DOCUMENTS EXAMINED

1	2	TITLE/SUBJECT	3	4
09	7	CP&LC to NRC RTE Subject: Shearon Harris Nuclear Power Plant Unit 1, Docket No 50-400, Sill Channel Sizing and Anchor Bolt Sizing for Seismically-Designed 6.9 KV Non Class 1E Switchgear	2/18/81	
10	7	SAI-USO-NY to ESI Subject: CP&LC/Shearon Harris Plant, 6.9KV Switchgear, Class 1E, PO. # NY-435112 Environmental & Seismic Qualification Report.	10/2/80	
11	7	SAI-USO-NY to ESI Subject: CP&LC/Shearon Harris PO. # NY-435112, Metalclad Switchgear Qualification Documentation	8/1/80	
12	-1	SAI Dwg 18-801-643-012 Sill Channel		01
13	1	SAI Dwg 18-801-641-512 Sill Channel		03
14	1	SAI Dwg 18-801-642-512 Sill Channel		02
15	1	SAI Dwg 18-801-640-024 Sill Channel		02
16	1	SAI Dwg 18-475-783-701 Sill Channel Arrgt		03
17	1	SAI Dwg 18-473-637-401 General Arrgt & Side Views		10
18	1	SAI Dwg 18-473-593-401 General Arrgt & Side Views		08

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| 1. Sequential Item Number |
| 2. Type of Document |
| 3. Date of Document |
| 4. Revision (If applicable) |