FINAL REPORT

FLORIDA POWER & LIGHT COMPANY TURKEY POINT NUCLEAR POWER PLANT, UNIT 3 CLIENT'S P. O. #: B92691-01146 SPC JOB CODE #3403

Turkey Point Nuclear Power Plant, Unit 3 Spring Refueling Outage 1994

Prepared by: Market Time Reviewed by:

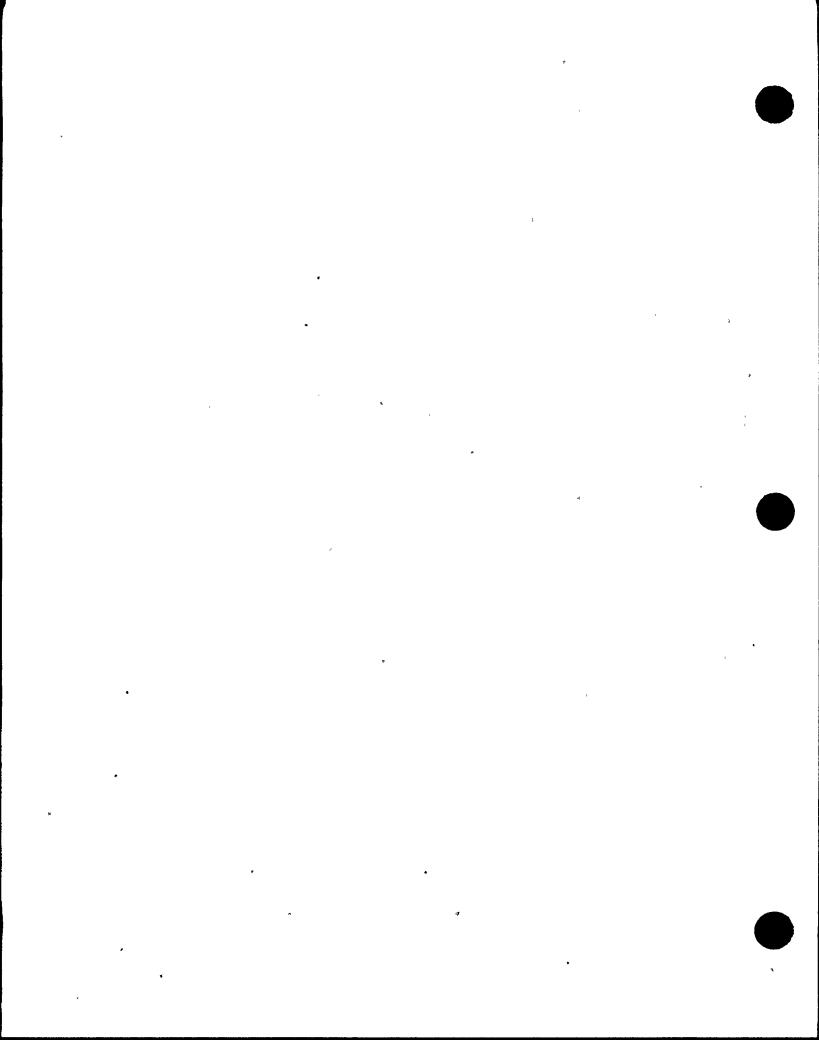
Date:

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Certificate of Compliance

Activities described in this Final Report were conducted in accordance with the applicable requirements of Florida Power & Light Purchase Order # B92691-01146.

Manager of Quality Assurance



ABSTRACT

To satisfy the requirements of ASME, Section XI, and FPL Plant Turkey Point (PTN) Technical Specifications, snubber surveillance services were performed during PTN Spring Refueling Outage 1994. Visual examinations, functional testing, and snubber refurbishment activities were accomplished on those snubbers designated by FPL's site representative. Functional testing, using Siemens Power Corporation (SPC) on-site mobile test equipment determined the as-found condition of those snubbers selected for test.

INTRODUCTION:

Siemens Power Corporation (SPC) was contracted to provide snubber test equipment and visual examination personnel under the direction of Florida Power and Light Co. (FPL) during Turkey Point Unit 3's Spring Refueling Outage. The work was scheduled for performance 4 April 1994 through 30 April 1994 at the Turkey Point's Unit No.3 Nuclear Facility.

This narrative summarizes the significant aspects of the activity. It contains summary tables of visual examination results, functional test results, disassembly evaluations and deviation reports. Original visual examination documentation, functional test plots, deviation reports, disassembly evaluations and the Project Plan (which are incorporated in this report by reference) were turned over to the customer's representative prior to the conclusion of on-site activities.

The initial work scope included the visual examination of 111 mechanical shock arrestors, the functional testing of 12 snubbers as part of the original sample plan and eight (8) snubbers as part of augmented testing.

Functional test activities required as-found testing of test sample plan and augmented snubber and as-left testing of specific mechanical snubbers after cleaning and reassembly.

Functional testing activities identified one (1) snubber which deviated from the specified criteria. Functional testing consisted of twenty-three functional tests, the tested snubbers are divided into four categories: Sample 1, Augmented, Post cleaning and Spares.

Visual examination, functional testing and evaluation activities were performed at Turkey Point Unit 3 under the direction of the Turkey Point site representative. Work performed was in accordance with the above referenced FP&L procedures and in accordance with the SPC Quality Assurance Program.

Visual examination of 109 mechanical shock arrestors identified thirty one (31) shock arrestors deviating for the examination criteria. These conditions were determined to be maintenance items. Therefore, none of these conditions constituted visual failures. A summary of Visual Examination Results is provided in the summary section of this report.

Functional testing of the twelve(12) original sample snubbers (Sample 1: 3-1000, 3-1038, 3-1043, 3-1044, 3-1046, 3-1048, 3-1057, 3-1070, 3-1071, 3-1081, 3-1106 and 3-1137) identified no snubbers deviating from the specified criteria. Augmented functional testing of three (3) snubbers (3-1045, 3-1094 and 3-1110) was performed. The snubber installed at tag location 3-1094 failed to meet the specified criteria for initial drag.

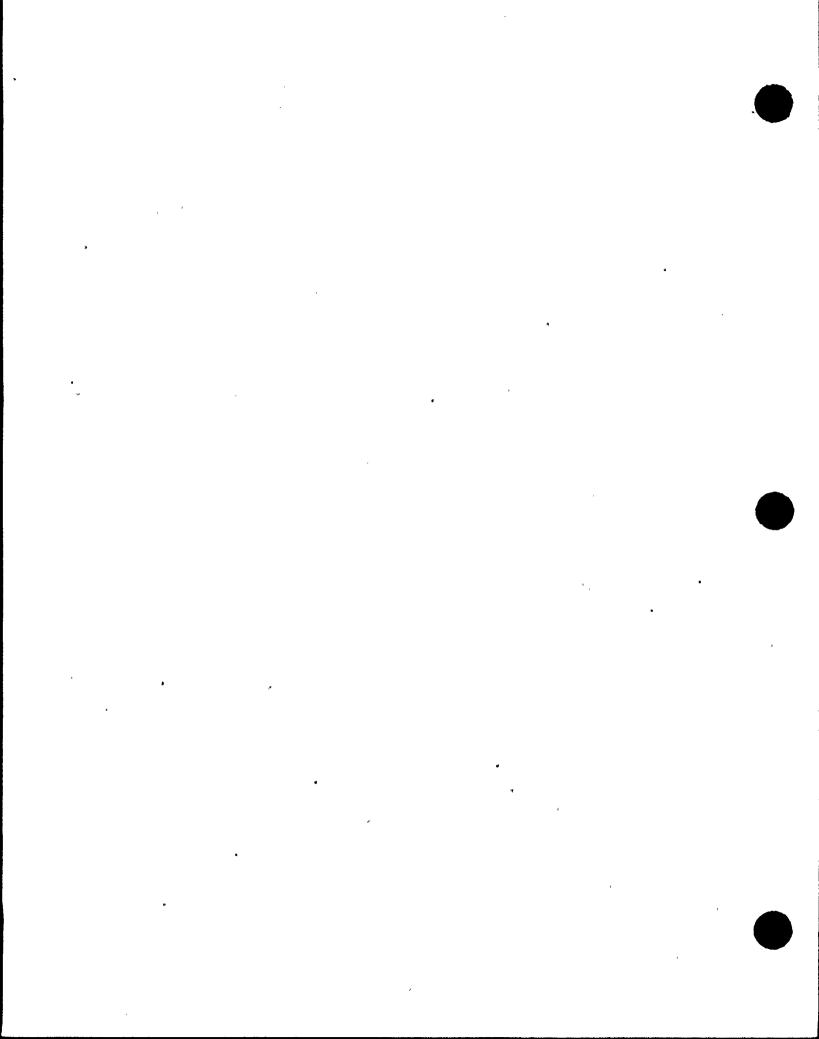
Snubbers installed at tag locations 3-1054, 3-1077, 3-1078, 3-1079, and 3-1080 were functionally tested after cleaning and all met the specified criteria.

Three (3) spare snubbers were functionally tested to be used as replacement snubbers. Spare 1 was installed at tag location 3-1080. Spare 2 was installed at tag location 3-1078. Spare 3 was installed at tag location 3-1094.

Summaries of functional test results for Sample 1, Augmented Tests, Post cleaning tests and testing of Spares are provided in the summary section of this report.

Thirty one (31) Deviation Reports were generated as result of Visual examination and functional testing activities. These reports were submitted to the site representative for disposition intructions. Upon receipt of disposition instructions, the instructions were completed and verified, thus closing the report. A summary of Deviation Reports is provided in the summary section of this report.

The purchase order required that snubbers installed at tag locations 3-1054, 3-1077, 3-1078, 3-1079 and 3-1080 be partially disassembled (only as far as required to remove excess grease from the capstan area), cleaned, evaluated and reassembled, snubber condition permitting. A summary of the conditions found upon disassembly is provided in the summary section of this report.

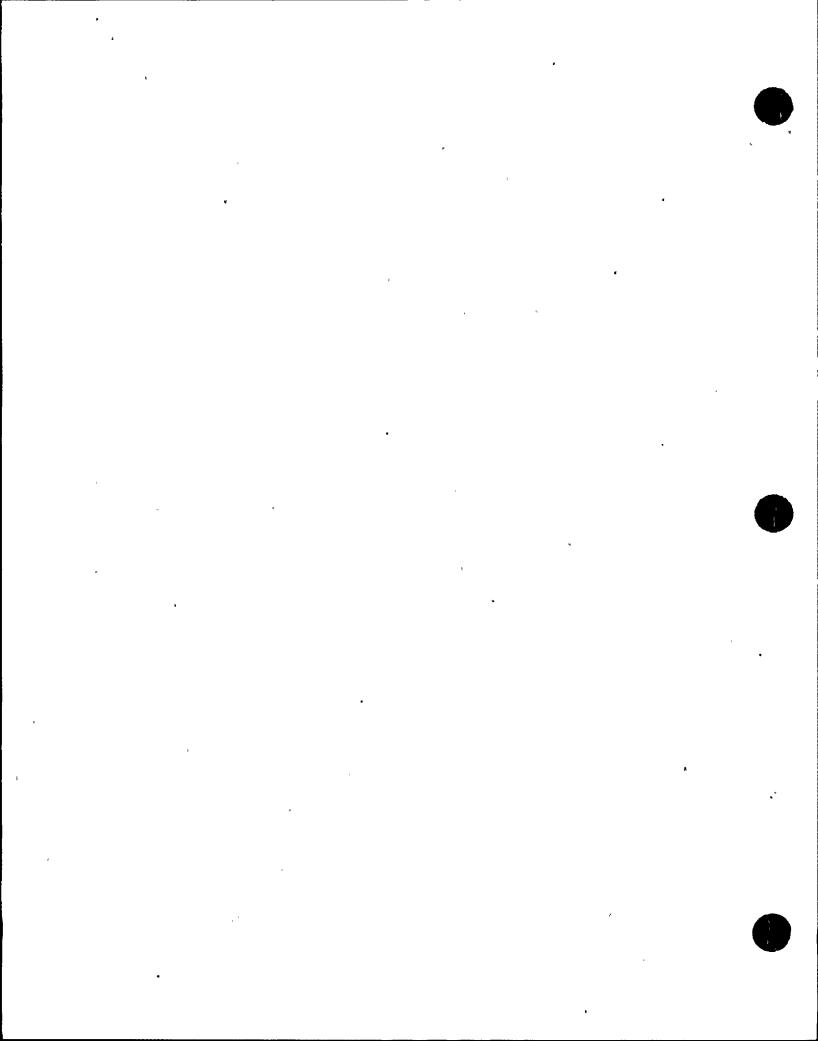


PROGRAM SUMMARIES:

VISUAL EXAMINATION SUMMARY

TAG #	SERIAL #	VT-3DATE	VTRSLT	A/F DEVO.
3-1000	18015	04/15/94	PASS '	
3-1001	27095	04/12/94	PASS	•
3-1002	104	04/12/94	DEV.	3-TPN-94-3-1002
3-1003	29625	04/12/94	DEV.	4-TPN-94-3-1003
3-1004	101	04/12/94	PASS	
3-1005	10035	04/08/94	DEV.	2-TPN-94-3-1005
3-1006	3051	04/12/94	DEV.	5-TPN-94-3-1006
3-1007	4590	04/13/94	PASS	
3-1008	8084	04/13/94	PASS	
3-1009	1203	04/13/94	DEV.	6-TPN-94-3-1009
3-1010	11931	04/13/94	DEV.	7-TPN-94-3-1010
3-1011	12376	04/13/94	DEV.	8-TPN-94-3-1011
3-1012	8086	04/07/94	PASS	
3-1013	33624	04/22/94	PASS	,
3-1014	1722	04/22/94	PASS	,
3-1015	18009	04/22/94	PASS	
3-1016	18012	04/22/94	PĀSS	
3-1017	18003	04/22/94	PASS	
3-1018	18013	04/22/94	PASS	
3-1019	2889	04/13/94	DEV.	9-TPN-94-3-1019
3-1020	103	04/13/94	DEV.	10-TPN-94-3-1020
3-1021	16725	04/22/94	DEV.	32-TPN-94-3-1021

TAG #	SERIAL #	VT-3DATE	VTRSLT	A/F DEVO.
3-1022	18006	04/22/94	PASS	ν
3-1023	23273	04/22/94	PASS	
3-1024	17427	04/22/94	PASS	
3-1025	100	04/22/94	PASS	
3-1028	11135	04/22/94	PASS	
3-1029	11330	04/22/94	PASS	
3-1030	11121	04/22/94	PASS	
3-1031	27086	04/14/94	PASS	
3-1032	24410	04/14/94	DEV.	16-TPN-94-3-1032
3-1033	19328	04/14/94	PASS	
3-1034	24429	04/14/94	PASS	
3-1035	19330	04/14/94	PASS	
3-1036	27100	04/14/94	PASS	
3-1037	11922	04/16/94	PASS	
3-1038	11934	04/15/94	PASS	
3-1039	16241	04/15/94	DEV.	17-TPN-94-3-1039
3-1040	16239	04/15/94	DEV.	18-TPN-94-3-1040
3-1041	16234	04/15/94	DEV.	19-TPN-94-3-1041
3-1042	12365	04/15/94	PASS	
3-1043	17899	04/18/94	PASS	
3-1044	17900	04/18/94	PASS	
3-1045	17189	04/18/94	PASS	
3-1046	17903	04/18/94	PASS	
3-1047	17902	04/18/94	PASS	•
3-1048	17904	04/18/94	PASS	
3-1049	16245	04/18/94	PASS	



TAG #	SERIAL #	VT-3DATE	VTRSLT	A/F DEVO.
3-1050	17906	04/18/94	PASS	
3-1051	16249	04/19/94	PASS	
3-1052	16233	04/19/94	PASS	N
3-1053	2462	04/19/94	PASS '	
3-1054	16248	04/19/94	PASS	
3-1055	13697	04/19/94	PASS	
3-1057	27106	04/18/94	PASS	,
3-1058	27102	04/18/94	PASS	
3-1060	19329	04/18/94	PASS	
3-1069	27072	04/18/94	PASS	
3-1070	27079	04/18/94	PASS	
3-1071	27069	04/19/94	PASS	ð
3-1072	27073 .	04/19/94	DEV.	29-TPN-94-3-1072
3-1073	27090	04/19/94	PASS	
3-1074	27104	04/18/94	PASS	
3-1075.	18074	04/16/94	DEV.	24-TPN-94-3-1075
3-1076	19725	04/16/94	DEV.	25-TPN-94-3-1076
3-1077	16230	04/15/94	DEV.	15-TPN-94-3-1077
3-1078	16229	04/15/94	DEV.	14-TPN-94-3-1078
3-1079	10176	04/15/94	DEV.	13-TPN-94-3-1079
3-1080	10173	04/15/94	DEV.	12-TPN-94-3-1080
3-1081	11921	04/15/94	PASS	.*
3-1082	11932	04/15/94	PASS	
3-1083	11925	04/21/94	PASS	
3-1084	7000	04/20/94	PASS	

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TAG #	SERIAL #	VT-3DATE	VTRSLT	A/F DEVO.
3-1091	27087	04/16/94	DEV.	21-TPN-94-3-1091
3-1092	27105	04/16/92	DEV.	22-TPN-94-3-1092
3-1093	27091	04/16/94	DEV.	23-TPN-94-3-1093
3-1094	27074	04/19/94	DEV.	28-TPN-94-3-1094
3-1095	16733	04/14/94	PASS	
3-1096	11993	04/19/94	PASS	•
3-1097	16724	04/19/94	PASS	
3-1098	33628	04/15/94	PASS	
3-1099	38481	04/15/94	PASS	
3-1100	17819	04/15/94	PASS	
3-1101	33626	04/15/94	DEV.	20-TPN-94-3-1101
3-1102	29451	04/15/94	PASS	
3-1103	11996	04/19/94	PASS	
3-1104	24412	04/19/94	PASS	
3-1105	16134	04/14/94	PASS	
3-1106	29495	04/14/94	DEV.	11-TPN-94-3-1106
3-1110	16136	04/14/94	PASS	•
3-1111	2875	04/19/94	PASS	\
3-1112	27083	04/19/94	PASS	
3-1120	18325	04/19/94	PASS	
3-1121	24430	04/15/94	PASS	
3-1123	12988	04/07/94	DEV.	1-TPN-94-3-1123
3-1124	12991	04/07/94	PASS	
3-1125	12986	04/08/94	PASS	
3-1126	12989	04/08/94	PASS	
3-1127	12990	04/08/94	PASS	

TAG #	SERIAL #	VT-3DATE	VTRSLT	A/F DEVO.
3-1128	12985	04/08/94	PASS	
3-1129	12987	04/13/94	PASS	
3-1130	17840	04/11/94	PASS	
3-1131	17837	04/11/94	PASS '	
3-1132	17838	04/11/94	PASS	
3-1133	13695	04/11/94	PASS	
3-1134	17836	04/11/94	PASS	
3-1135	17839	04/12/94	PASS	
3-1136	19884	04/16/94	PASS	
3-1137	19885	04/16/94	PASS	

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FUNCTIONAL TEST SUMMARIES

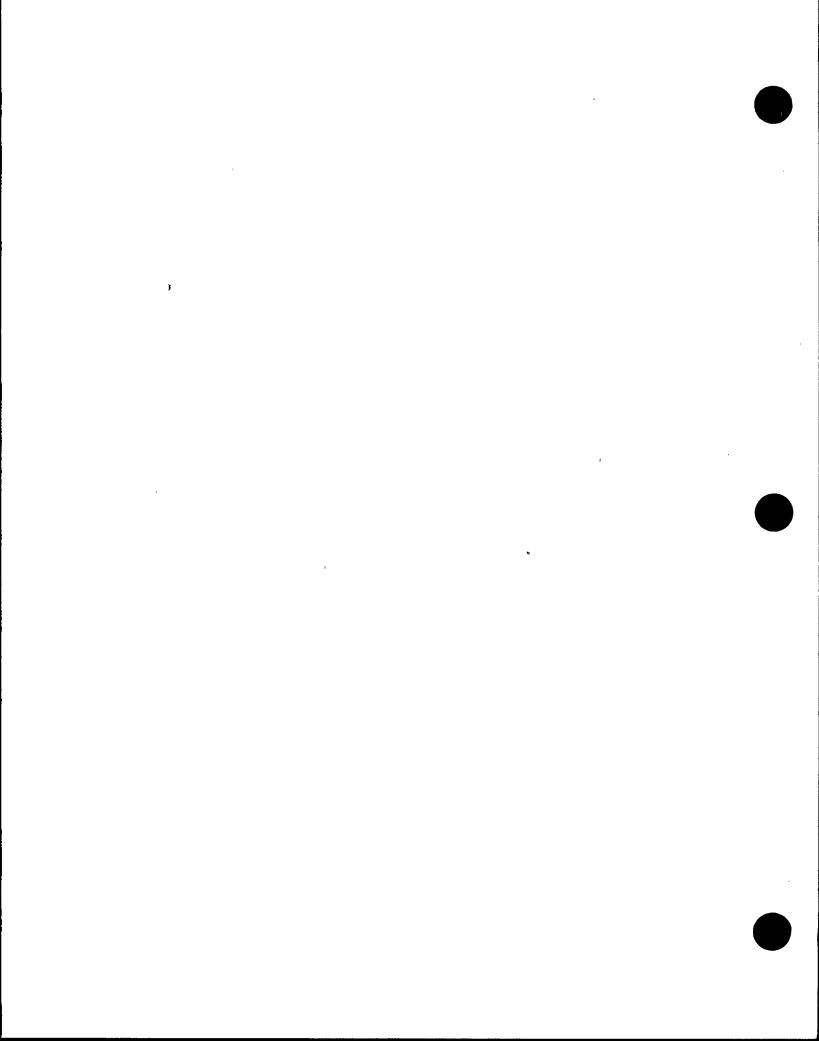
SAMPLE 1 Functional Test Summary

TAG #: 3-1000		
FTRSLT: PASS TBKAWY: 6.1 TIDRAG: 10.8 TAIDRAG: 6.1 TTST LOAD: 1411.6 TACTV.: 0.009 TFDRAG: 11.9 TFADRAG: 6.6	FDATE: 04/14/94 CBKAWY: 12.7 CIDRAG: 13.6 CADRAG: 9.1 CTST LOAD: 1440.3 CACTV.: 0.009 CFDRAG: 14.7 CFADRAG: 9.2	SERIAL #: 18015 BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS
TAG #: 3-1038		
FTRSLT: PASS TBKAWY: 363.5 TIDRAG: 626.5 TAIDRAG: 248.3 TTST LOAD: 44650 TACTV.: 0.017 TFDRAG: 554.1 TFADRAG: 259.3	FDATE: 04/16/94 CBKAWY: 205.4 CIDRAG: 447.2 CADRAG: 194.0 CTST LOAD: 47290 CACTV.: 0.016 CFDRAG: 602.2 CFADRAG: 225.4	SERIAL #: 11934 BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS
TAG #: 3-1044	MODEL: PSA-10	
FTRSLT: PASS TBKAWY: 46.2 TIDRAG: 55.4 TAIDRAG: 40.0 TTST LOAD: 13456.4 TACTV.: 0.019 TFDRAG: 66.5 TFADRAG: 53.6	FDATE: 04/19/94 CBKAWY: 54.1 CIDRAG: 86.1 CADRAG: 65.7 CTST LOAD: 13484.6 CACTV:: 0.013 CFDRAG: 58.6 CFADRAG: 42.3	SERIAL #: 17900 BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS
TAG #: 3-1046	MODEL: PSA-10	•
FTRSLT: PASS TBKAWY: 26.5 TIDRAG: 53.9 TAIDRAG: 36.7 TTST LOAD: 14690.0 TACTV:: 0.017 TFDRAG: 62.0 TFADRAG: 37.7	FDATE: 04/19/94 CBKAWY: 35.5 CIDRAG: 47.3 CADRAG: 27.9 CTST LOAD: 14090.3 CACTV: 0.009 CFDRAG: 63.3 CFADRAG: 31.0	SERIAL #: 17903 BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS

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SAMPLE 1 Functional Test Summary (continued)

TAG #: 3-1048		
TTST LOAD: 13636.5 TACTV.: 0.019 TFDRAG: 39.7 TFADRAG: 29.5	FDATE: 04/19/94 CBKAWY: 43.3 CIDRAG: 57.7 CADRAG: 30.3 CTST LOAD: 13268.3 CACTV.: 0.011 CFDRAG: 54.9 CFADRAG: 32.1	TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS
TAG #: 3-1057	MODEL: PSA-3	•
FTRSLT: PASS TBKAWY: 21.9 TIDRAG: 41.0 TAIDRAG: 22.6 TTST LOAD: 5831.8 TACTV.: 0.010 TFDRAG: 47.6 TFADRAG: 23.1	FDATE: 04/19/94 CBKAWY: 22.2 CIDRAG: 33.4 CADRAG: 18.6 CTST LOAD: 5721.8 CACTV.: 0.005 CFDRAG: 35.9 CFADRAG: 19.5	SERIAL #: 27106 BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS
ጥልሮ #• 3 - 1070	MODEL: PSA-3	•
FTRSLT: PASS TBKAWY: 39.0 TIDRAG: 51.8 TAIDRAG: 29.5 TTST LOAD: 5535.2 TACTV:: 0.011 TFDRAG: 55.5 TFADRAG: 30.9	FDATE: 04/19/94 CBKAWY: 31.0 CIDRAG: 56.2 CADRAG: 33.5 CTST LOAD: 5363.4 CACTV:: 0.006 CFDRAG: 49.1 CFADRAG: 29.0	SERIAL #: 27079 BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS
TAG #: 3-1071		f
FTRSLT: PASS TBKAWY: 30.1 TIDRAG: 37.7 TAIDRAG: 22.3 TTST LOAD: 5727.2 TACTV.: 0.012 TFDRAG: 34.7 TFADRAG: 20.6	FDATE: 04/19/94 CBKAWY: 14.1 CIDRAG: 34.5 CADRAG: 20.3 CTST LOAD: 5534.8 CACTV.: 0.008 CFDRAG: 26.3 CFADRAG: 12.2	SERIAL #: 27069 BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS



SAMPLE 1 Functional Test Summary (continued)

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TAG #: 3-1081	MODEL: PSA-35	
TAIDRAG: 251.9 TTST LOAD: 43990 TACTV.: 0.015 TFDRAG: 536.5 TFADRAG: 157.7		AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS
TAG #: 3-1106	MODEL: PSA-1/4	,
FTRSLT: PASS TBKAWY: 4.9 TIDRAG: 8.9 TAIDRAG: 6.1 TTST LOAD: 337.4 TACTV:: 0.007 TFDRAG: 8.3 TFADRAG: 5.7	FDATE: 04/15/94 CBKAWY: 6.6 CIDRAG: 8.0 CADRAG: 3.9 CTST LOAD: 310.5 CACTV:: 0.006 CFDRAG: 6.5 CFADRAG: 3.4	SERIAL #: 29495 BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS
TAG #: 3-1137	MODEL: PSA-1/2	
FTRSLT: PASS TBKAWY: 2.3 TIDRAG: 3.7 TAIDRAG: 2.4	FDATE: 04/16/94 CBKAWY: 3.9 CIDRAG: 4.4 CADRAG: 3.1	SERIAL #: 19885 BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS

CFADRAG: 2.7

CTST LOAD: 629.1 CACTV.: 0.012 CFDRAG: 4.0 TEST LOAD RSLT: PASS

ACTV. RSLT: PASS FDRAG RSLT: PASS

TFADRAG RSLT: PASS

TFADRAG: 3.1

TTST LOAD: 624.2

TACTV.: 0.014 TFDRAG: 4.7

Augmented Functional Test Summary

	.,	
TAG #: 3-1045		
- 99999 - 10AD+ 13892.2	FDATE: 04/19/94 CBKAWY: 46.8 CIDRAG: 65.0 CADRAG: 48.2 CTST LOAD: 13239.6 CACTV:: 0.011 CFDRAG: 46.5 CFADRAG: 32.7	SERIAL #: 17189 BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS
•••	MODEL: PSA-3	
FTRSLT: FAIL TBKAWY: 165.3 TIDRAG: 208.4 TAIDRAG: 114.9 TTST LOAD: 5887.0 TACTV.: 0.012 TFDRAG: 155.3 TFADRAG: 73.0	FDATE: 04/19/94 CBKAWY: 158.4 CIDRAG: 343.2 CADRAG: 138.6 CTST LOAD: 5827.7 CACTV.: 0.007 CFDRAG: 192.0 CFADRAG: 93.1	SERIAL #: 27074 BKAWY RSLT: PASS IDRAG RSLT: FAIL AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS
TAG #: 3-1110	MODEL: PSA-1	
FTRSLT: PASS TBKAWY: 5.8 TIDRAG: 8.7 TAIDRAG: 6.0 TTST LOAD: 1402.7 TACTV.: 0.009 TFDRAG: 7.7 TFADRAG: 4.8	FDATE: 04/15/94 CBKAWY: 3.2 CIDRAG: 6.8 CADRAG: 3.2 CTST LOAD: 1424.4 CACTV.: 0.008 CFDRAG: 7.9 CFADRAG: 4.4	SERIAL #: 16136 BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS

Post Cleaning Functional Test Summary

	-	
TAG #: 3-1054		
A/L FTRSLT: PASS TBKAWY: 22.7 TIDRAG: 38.9 TAIDRAG: 20.4 TTST LOAD: 13832.7 TACTV:: 0.017 TFDRAG: 39.8 TFADRAG: 22.3	A/L FDATE: 04/19/94 CBKAWY: 35.8 CIDRAG: 55.9 CADRAG: 36.0 CTST LOAD: 13256.4 CACTV.: 0.017 CFDRAG: 47.4 CFADRAG: 30.5	SERIAL #: 16248 BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS
TAG #: 3-1077	MODEL: PSA-10	
A/L FTRSLT: PASS TBKAWY: 44.3 TIDRAG: 44.3 TAIDRAG: 22.6 TTST LOAD: 14507.4 TACTV.: 0.017 TFDRAG: 37.6 TFADRAG: 21.9	A/L FDATE: 04/16/94 CBKAWY: 39.4 CIDRAG: 58.0 CADRAG: 36.5 CTST LOAD: 13683.9 CACTV.: 0.010 CFDRAG: 52.2 CFADRAG: 32.6	SERIAL #: 16230 BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS
TAG #: 3-1078	MODEL: PSA-10	
A/L FTRSLT: PASS TBKAWY: 16.6 TIDRAG: 34.0 TAIDRAG: 14.9 TTST LOAD: 14313.1 TACTV.: 0.018 TFDRAG: 45.8 TFADRAG: 29.1	A/L FDATE: 04/18/94 CBKAWY: 34.3 CIDRAG: 47.7 CADRAG: 31.1 CTST LOAD: 13148.8 CACTV.: 0.011 CFDRAG: 32.5 CFADRAG: 17.1	SERIAL #: 16229 BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS
TAG #: 3-1079		
A/L FTRSLT: PASS TBKAWY: 17.1 TIDRAG: 29.8 TAIDRAG: 16.6 TTST LOAD: 14036.6 TACTV.: 0.019 TFDRAG: 29.2 TFADRAG: 14.7	A/L FDATE: 04/16/94 CBKAWY: 29.5 CIDRAG: 39.1 CADRAG: 23.6 CTST LOAD: 13728.1 CACTV:: 0.010 CFDRAG: 42.0 CFADRAG: 25.8	SERIAL #: 10176 BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS TEST LOAD RSLT: PASS ACTV. RSLT: PASS FDRAG RSLT: PASS TFADRAG RSLT: PASS

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Post Cleaning Functional Test Summary Cont.

TAG #: 3-1080 MODEL: PSA-10

TIDRAG: 39.4 TAIDRAG: 18.0 TTST LOAD: 13637.2	CIDRAG: 47.9 CADRAG: 15.6 CTST LOAD: 13072.4	BKAWY RSLT: PASS IDRAG RSLT: PASS AVDRAG RSLT: PASS TEST LOAD RSLT: PASS
TACTV.: 0.017 TFDRAG: 60.6		ACTV. RSLT: PASS FDRAG RSLT: PASS

Spare Functional Test Summary

· •		
A/L FTRSLT: PASS	A/L FDATE: 04/18/94	SERIAL #: 12396
TBKAWY: 15.4	CBKAWY: 27.6	BKAWY RSLT: PASS

MODEL: PSA-10

TBKAWY: 15.4 CBKAWY: 27.6 BKAWY RSLT: PASS TIDRAG: 39.4 CIDRAG: 47.9 IDRAG RSLT: PASS TAIDRAG: 18.0 CADRAG: 15.6 AVDRAG RSLT: PASS TTST LOAD: 13637.2 CTST LOAD: 13072.4 TEST LOAD RSLT: PASS

TTST LOAD: 13637.2 CTST LOAD: 13072.4 TEST LOAD RSLT: PASS TACTV.: 0.017 CACTV.: 0.009 ACTV. RSLT: PASS FDRAG: 60.6 CFDRAG: 23.1 FDRAG RSLT: PASS TFADRAG: 26.2 CFADRAG: 8.8 TFADRAG RSLT: PASS

TAG #: Spare 2 MODEL: PSA-10

TAG #: Spare 1

A/L FTRSLT: PASS A/L FDATE: 04/18/94 SERIAL #: 16244
TBKAWY: 16.6 CBKAWY: 34.3 BKAWY RSLT: PASS
TIDRAG: 34.0 CIDRAG: 47.7 IDRAG RSLT: PASS
TAIDRAG: 14.9 CADRAG: 31.1 AVDRAG RSLT: PASS
TTST LOAD: 14313.1 CTST LOAD: 13148.8 TEST LOAD RSLT: PASS
TACTV.: 0.018 CACTV.: 0.011 ACTV. RSLT: PASS

TACTV.: 0.018 CACTV.: 0.011 ACTV. RSLT: PASS TFDRAG: 45.8 CFDRAG: 32.5 FDRAG RSLT: PASS TFADRAG: 29.1 CFADRAG: 17.1 TFADRAG RSLT: PASS

TAG #: Spare 3 MODEL: PSA-3

FTRSLT: PASS FDATE: 04/19/94 SERIAL #: 4388
TBKAWY: 16.9 CBKAWY: 10.4 BKAWY RSLT: PASS
TIDRAG: 20.8 CIDRAG: 21.3 IDRAG RSLT: PASS
TAIDRAG: 10.3 CADRAG: 10.7 AVDRAG RSLT: PASS
TTST LOAD: 5301.1 CTST LOAD: 5378.4 TEST LOAD RSLT: PASS
TACTV.: 0.011 CACTV.: 0.008 ACTV. RSLT: PASS
TFDRAG: 20.1 CFDRAG: 21.2 FDRAG RSLT: PASS

TFDRAG: 20.1 CFDRAG: 21.2 FDRAG RSLT: PASS TFADRAG: 10.0 CFADRAG: 11.2 TFADRAG RSLT: PASS

DEVIATION REPORT SUMMARY

TAG #: 3-1002

CLOSE DATE: 4/12/94 DEVIATION #: 03-TPN-93-3-1002 INT. DATE: 4/12/94

CONDITION:

Transition tube assembly mounting bolts are flush with snubber housing flange. The existing bolts are 5/16" dia with

7/16" thread engagement.

4, 5, 4, 7,

DISPOSITION: ACCEPTABLE AS IS.

TAG #: 3-1003

CLOSE DATE: 4/12/94 INT. DATE: 4/12/94 DEVIATION #: 04-TPN-94-3-1003

CONDITION:

Transition tube assembly mounting bolts are flush with snubber housing flange. Existing bolts are 5/16" dia. with

7/16" engagement. Thread engagement > 1 bolt dia.

ACCEPTABLE AS IS DISPOSITION:

TAG #: 3-1005

DEVIATION #: 02-TPN-94-3-1005 INT. DATE: 4/11/94 CLOSE DATE: 4/11/94

CONDITION:

Both load pins on this MSA show wear.
 Load pin holes in holes in the structural attachment

appear to be elongated approximately 1/32".

1) Replaced load pins. **DISPOSITION:**

2) CR written on holes. LR 94-292 . PCM 94-041 REPLACED

SAUBBERS ELONGATED REAR BRACKET.

TAG #: 3-1006

INT. DATE: 4/12/94 CLOSE DATE: 4/23/94 DEVIATION #: 05-TPN-94-3-1006

1) Load pin holes in structural attachment appear to be CONDITION: elongated approximately 1/16", load pin holes in the pipe attachment appear to be elongated approximately 1/32"

2) Snubber end load pin shows excessive wear.

3) Snubber could not be hand stroked.

1 & 2) CR written DISPOSITION:

3) Stroked snubber in test bench at default pressure.

cr 94-292 REPORT SUBMITTED. Per 94-041. CONDITION

ELONGATED REAR BRACKET SNUBBERS REPLACES

SPARE. WITH TESTED REPLACED SNUBBER

TAG #: 3-1009

INT. DATE: 4/13/94 CLOSE DATE: 4/21/94 DEVIATION #: 06-TPN-94-3-1009

CONDITION:

1) Load pin holes in structural attachment appear to be elongated approximately 1/32", load pin holes in the pipe attachment appear to be elongated approximately 1/16"

2) Load pin in the strut end shows excessive wear.

1) Replaced load pin on strut end. DISPOSITION:

2) CR written in 94-292. PCM 94-041 REPLACED SAUSSERS

ELONGATED REAR BRACKET.

TAG #: 3-1010

DEVIATION #: 07-TPN-94-3-1010 INT. DATE: 4/13/94 CLOSE DATE: 4/21/94

CONDITION:

1) Load pin holes in structural attachment appear to be elongated approximately 1/16", load pin holes in the pipe attachment appear to be elongated approximately 1/32". 2) Load pin in the structural attachment shows excessive

wear.

1) Replaced load pin on structural end. DISPOSITION:

REPLACED SOUPSERS 94-041 2) CR written cR 94-292 . PCM

REAR BRACKET. ELONGATES

TAG #: 3-1011

CLOSE DATE: 4/21/94 INT. DATE: 4/13/94 DEVIATION #: 08-TPN-94-3-1011

Transition tube assembly mounting bolts are flush with CONDITION:

snubber housing flange. Existing bolts are 1/2" dia. with 5/8" engagement. Thread engagement > 1 bolt dia.

DISPOSITION: ACCEPTABLE AS IS

TAG #: 3-1019

INT. DATE: 4/13/94 CLOSE DATE: 4/21/94 DEVIATION #: 09-TPN-94-3-1019

CONDITION:

Transition tube assembly mounting bolts are flush with snubber housing flange. Existing bolts are 5/16" dia. with 1/2" engagement. Thread engagement > 1 bolt dia.

DISPOSITION: ACCEPTABLE AS IS

TAG #: 3-1020

DEVIATION #: 10-TPN-94-3-1020 INT. DATE: 4/13/94 CLOSE DATE: 4/21/94

Transition tube assembly mounting bolts are flush with CONDITION:

snubber housing flange. Existing bolts are 5/16" dia. with 1/2" engagement. Thread engagement > 1 bolt dia.

DISPOSITION: ACCEPTABLE AS IS

TAG #: 3-1021

DEVIATION #: 32-TPN-94-3-1021 INT. DATE: 4/25/94 CLOSE DATE: 4/25/94

The "L" dimension for this MSA is 1/8" below the specified CONDITION:

min.

CONDITION REPORT CR-94-491 DISPOSITION:

No further action by Siemens. CONDITION REPORT CR-94-491
ADDRESSED CONDITION, A CRN TO DRAWING 5613-H-599 SHT 21
SUBMITTED TO INCORPORATE THE CORRECT SNUBBER MOVEMENT AND
L DIMENSION AS SPECIFIED ON CONDITION REPORT.

TAG #: 3-1022

DEVIATION #: 30-TPN-94-3-1022 INT. DATE: 4/23/94 CLOSE DATE: 4/23/94

The U bolt and trapeze assembly has rotated on the pipe. The angularity is less then 6 deg. However, the snubber housing flange is in contact with the pipe insulation. CONDITION:

DISPOSITION:

No further action by Siemens. COADITION REPORT CR-94-559
ADDRESSED COADITION. PWO 94010082 REPAIRED COADITION.

TAG #: 3-1032

DEVIATION #: 16-TPN-94-3-1032 INT. DATE: 4/16/94 CLOSE DATE: 4/21/94

The "L" dimension for this MSA is 1/4" below the specified CONDITION:

min.

No further action by Siemens. condition Report ca-94-364 DISPOSITION:

PER 1CM 94-043 ADDRESSED CONDITION. CONDITION CORRECTED

TAG #: 3-1039

CLOSE DATE: 4/21/94 DEVIATION #: 17-TPN-94-3-1039 INT. DATE: 4/16/94

Transition tube assembly mounting bolts are flush with CONDITION:

snubber housing flange. Existing bolts are 1/2" dia. with

1/2" engagement. Thread engagement > 1 bolt dia.

DISPOSITION: ACCEPTABLE AS IS

TAG #: 3-1040

DEVIATION #: 18-TPN-94-3-1040 INT. DATE: 4/16/94 CLOSE DATE: 4/21/94

Transition tube assembly mounting bolts are flush with the snubber housing flange. Existing bolts are 1/2" dia. with 1/2" thread engagement. Thread engagement > 1 bolt dia. CONDITION:

ACCEPTABLE AS IS DISPOSITION:

TAG #: 3-1041

DEVIATION #: 19-TPN-94-3-1041 INT. DATE: 4/16/94 CLOSE DATE: 4/21/94

Transition tube assembly mounting bolts are flush with the CONDITION:

snubber housing flange. Existing bolts are 1/2" dia. with 5/8" thread engagement. Thread engagement > 1 bolt dia.

ACCEPTABLE AS IS DISPOSITION:

TAG #: 3-1057

DEVIATION #: 26-TPN-94-3-1057 INT. DATE: 4/19/94 CLOSE DATE: 4/21/94

CONDITION:

1) Transition tube assembly mounting bolts are flush with the snubber housing flange. Existing bolts are 5/16" dia. with 7/16" thread engagement. Thread engagement > 1 bolt dia.
2) The pipe clamp for this MSA is rotated, The clamp is not binding on the snubber. However, the pipe insulation is torn.

1) ACCEPTABLE AS IS DISPOSITION:

2) No further action by Siemens.

TAG #: 3-1070

CLOSE DATE: 4/21/94 DEVIATION #: 27-TPN-94-3-1070 INT. DATE: 4/19/94

1) Transition tube assembly mounting bolts are flush with the snubber housing flange. Existing bolts are 5/16" dia. with 7/16" thread engagement. Thread engagement > 1 bolt dia. CONDITION:

2) Two base plate anchor bolts are loose.

1) ACCEPTABLE AS IS DISPOSITION:

2) No further action by Siemens.

TAG #: 3-1072

CLOSE DATE: 4/21/94 DEVIATION #: 29-TPN-94-3-1072 INT. DATE: 4/20/94

The "L" dimension for this MSA is 1/8" less than the min. CONDITION:

Adjusted the turnbuckle on transition tube assembly to bring DISPOSITION:

the "L" dimension to 16.0".

TAG #: 3-1075

CLOSE DATE: 4/21/94 DEVIATION #: 24-TPN-94-3-1075 INT. DATE: 4/18/94

CONDITION: The "L" dimension for this MSA is less than the specified min.

No further action by Siemens. Non conformance Report DISPOSITION:

CONDITION, PCM 93-202 N-92-0208 ADDRESSED WAS

CORRECT ISSUED TO DISCREPANT CONDITION.

TAG #: 3-1076

INT. DATE: 4/18/94 CLOSE DATE: 4/21/94 DEVIATION #: 25-TPN-94-3-1076

Transition tube assembly mounting bolts are flush with the CONDITION:

snubber housing flange. Existing bolts are 5/16" dia. with 7/16" thread engagement. Thread engagement > 1 bolt dia.

ACCEPTABLE AS IS DISPOSITION:

TAG #: 3-1077

CLOSE DATE: 4/21/94 INT. DATE: 4/15/94 DEVIATION #: 15-TPN-94-3-1078

Transition tube assembly mounting bolts are flush with CONDITION:

snubber housing flange. Existing bolts are 1/2" dia. with

5/8" engagement. Thread engagement > 1 bolt dia.

DISPOSITION: ACCEPTABLE AS IS

TAG #: 3-1078

DEVIATION #: 14-TPN-94-3-1078 INT. DATE: 4/15/94 CLOSE DATE: 4/23/94

CONDITION: 1) Transition tube assembly mounting bolts are flush with

snubber housing flange. Existing bolts are 1/2" dia. with

ing angle of the state of the s

5/8" engagement. Thread engagement > 1 bolt dia.
2) Spherical bearing on strut end is dislodged 1/8".

DISPOSITION:

ACCEPTABLE AS IS
 Restaked spherical bearing.

TAG #: 3-1079

DEVIATION #: 13-TPN-94-3-1079 INT. DATE: 4/15/94 CLOSE DATE: 4/21/94

Transition tube assembly mounting bolts are flush with snubber housing flange. Existing bolts are 1/2" dia. with 5/8" engagement. Thread engagement > 1 bolt dia. CONDITION:

ACCEPTABLE AS IS DISPOSITION:

TAG #: 3-1080

DEVIATION #: 12-TPN-94-3-1080 INT. DATE: 4/15/94 CLOSE DATE: 4/21/94

CONDITION:

Transition tube assembly mounting bolts are flush with snubber housing flange. Existing bolts are 1/2" dia. with 5/8" engagement. Thread engagement > 1 bolt dia.

ACCEPTABLE AS IS DISPOSITION:

TAG #: 3-1091

CLOSE DATE: 4/21/94 DEVIATION #: 21-TPN-94-3-1091 INT. DATE: 4/16/94

Transition tube assembly mounting bolts are flush with the CONDITION:

snubber housing flange. Existing bolts are 5/16" dia. with 7/16" thread engagement. Thread engagement > 1 bolt dia.

ACCEPTABLE AS IS DISPOSITION:

TAG #: 3-1092

CLOSE DATE: 4/21/94 DEVIATION #: 22-TPN-94-3-1092 INT. DATE: 4/16/94

Transition tube assembly mounting bolts are flush with the CONDITION:

snubber housing flange. Existing bolts are 5/16" dia. with 7/16" thread engagement. Thread engagement > 1 bolt dia.

ACCEPTABLE AS IS DISPOSITION:

TAG #: 3-1093

DEVIATION #: 23-TPN-94-3-1093 INT. DATE: 4/16/94 CLOSE DATE: 4/21/94

Transition tube assembly mounting bolts are flush with the CONDITION:

snubber housing flange. Existing bolts are 5/16" dia. with 7/16" thread engagement. Thread engagement > 1 bolt dia.

ACCEPTABLE AS IS DISPOSITION:

TAG #: 3-1094

INT. DATE: 4/20/94 CLOSE DATE: 4/21/94 DEVIATION #: 28-TPN-94-3-1094

This MSA could not be hand, stroked. CONDITION:

DISPOSITION: Replaced with tested spare s/n 4388.

TAG #: 3-1101

DEVIATION #: 20-TPN-94-3-1101 INT. DATE: 4/16/94 CLOSE DATE: 4/21/94

During review of VT exam results it was identified that the CONDITION:

specified "L" max. on dwg. 5613-H-671/54A RO exceeds the

maximum stroke of the MSA by 1/2".

No further action by Siemens. CONDITION REPORT CR-94-49D
ADDRESSED CONDITION. A CRN TO DRAWING 5613-H-671
SUBMITTED TO INCORPORATE THE CORRECT MOVEMENT AND L
DIMENSION AS SPECIFIED ON CONDITION REPORT. DISPOSITION:

ADDRESSED SUBMITTES

TAG #: 3-1106 bines (62)

CLOSE DATE: 4/21/94 DEVIATION #: 11-TPN-94-3-1106 INT. DATE: 4/15/94

This snubber required more force than normal(for a PSA 1/4) CONDITION:

to hand stroke.

DISPOSITION: Functionally tested snubber.

TAG #: 3-1123

CLOSE DATE: 4/23/94 DEVIATION #: 01-TPN-94-3-1123 INT. DATE: 4/8/94

MSA could not be hand stroked in the field. CONDITION:

afficient companies con fould be of mounty of respective or other cases.

DISPOSITION: Stroked with test bench at default pressure.

TAG #: n/a

INT. DATE: 4/23/94 CLOSE DATE: 4/23/94 DEVIATION #: 31

Daily velocity verification was performed on 4/14 & 4/15 using velocities outside the specified 2-3IPM. CONDITION:

DISPOSITION: Use As Is: Paragraphs 6.4.3 & 6.5.3 do not so specifically

state that velocities given are nominal, however, the specified 2 - 3 IPM velocities are nominal velocities. Any

velocity between 1 and 5 IPM is acceptable for verifying the

test machines ability to calculate velocity.

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OVERHAUL SUMMARY

TAG#: 3-1054

Description: This MSA was manufactured during the time period when PSA 10

snubbers were shipped with excess grease.

Remarks: This snubber was partially disassembled (only as far as

require to remove excess grease from the capstan area),

cleaned, evaluated and reassembled.

TAG#: 3-1077

Description: This MSA was manufactured during the time period when PSA 10

snubbers were shipped with excess grease.

Remarks: This snubber was partially disassembled (only as far as

required to remove excess grease from the capstan area),

cleaned, evaluated and reassembled.

TAG#: 3-1078

Description: This MSA was manufactured during the time period when PSA 10

snubbers were shipped with excess grease.

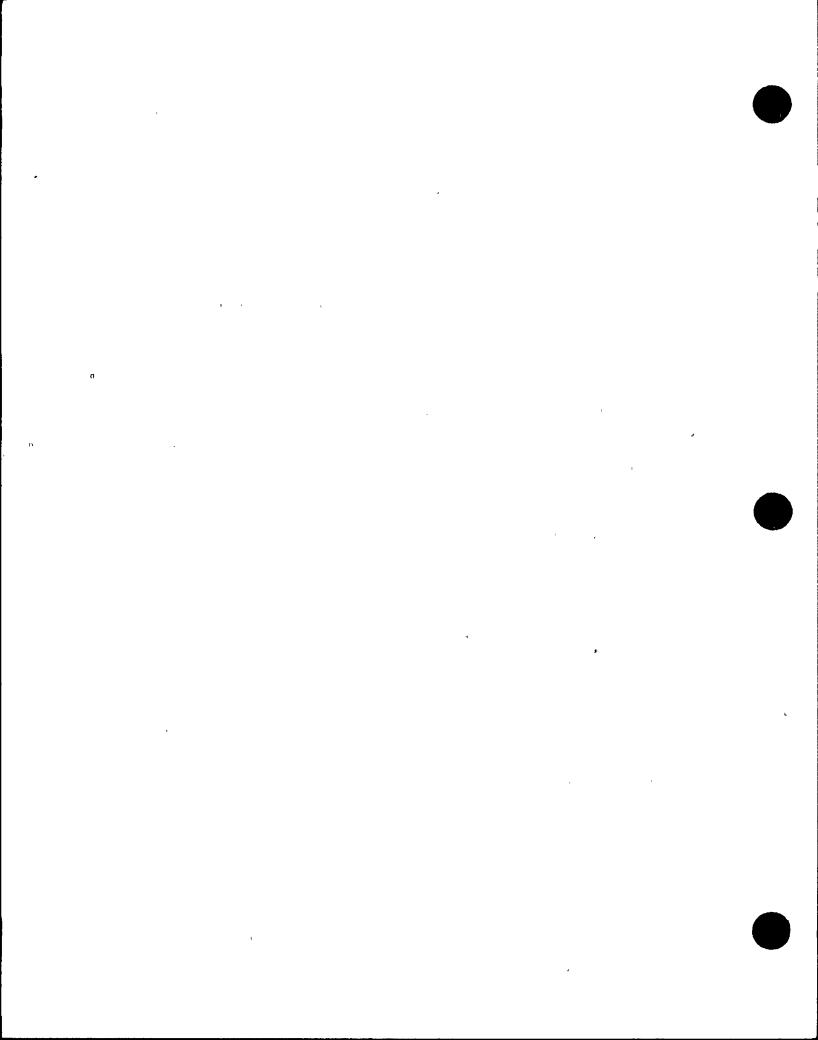
Remarks: This snubber was partially disassembled (only as far as

required to remove excess grease from the capstan area), cleaned and evaluated. Evaluation identified that the capstan

spring and capstan were severely worn. The snubber was

replaced and turne over to the customer for future

overhaul.



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TAG#: 3-1079

Overhaul Report #: TPN-94-3-1079

Serial #: 10176

Description:

This MSA was manufactured during the time period when PSA 10

snubbers were shipped with excess grease.

Remarks:

This snubber was partially disassembled (only as far as required to remove excess grease from the capstan area), cleaned, evaluated and reassembled.

TAG#: 3-1080

Overhaul Report #: TPN-94-3-1080

Serial #: 10173

Description:

This MSA was manufactured during the time period when PSA 10

snubbers were shipped with excess grease.

Remarks:

This snubber was partially disassembled (only as far as required to remove excess grease from the capstan area),

cleaned and evaluated. Evaluation identified that the capstar.

spring and capstan were severely worn. The snubber was

replaced and turned over to the customer for future overhaul.

TAG#: SPARE 1

Overhaul Report #: TPN-94-3-SPARE 1

Serial #: 12396

Description:

This MSA was manufactured during the time period when PSA 10

snubbers were shipped with excess grease.

Remarks:

This snubber was partially disassembled (only as far as required to remove excess grease from the capstan area),

cleaned, evaluated and reassembled. \

TAG#: SPARE 2

Overhaul Report #: TPN-94-3-SPARE 2

Serial #: 16244

Description:

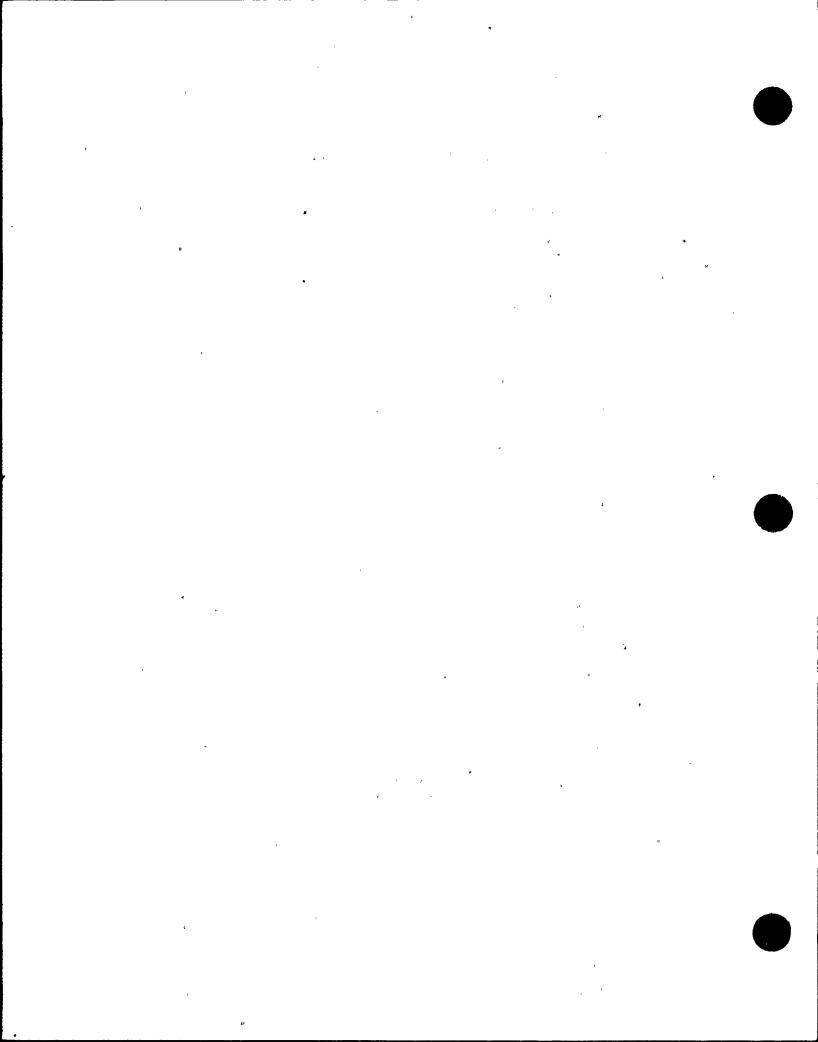
This MSA was manufactured during the time period when PSA 10

snubbers were shipped with excess grease.

Remarks:

This snubber was partially disassembled (only as far as required to remove excess grease from the capstan area),

cleaned, evaluated and reassembled.



This completed the scope of the SPC's visual examination, functional testing and evaluation activities.

PERSONNEL AND EQUIPMENT USED:

Berlind Adams Andrew Berlinder Highlight fire

PERSONNEL

NAME	POSITION	FUNCTION
M.L. Miller D.E. Moore T.W. Marshall F.W. Musgrove E.R. Simmons	Q.C. Supervisor Visual Examiner Visual Examiner Technician Technician	Q.C. & Site Lead Lead VT Examiner VT Examiner Machine Operator Test Technician

Personnel performing examination and testing activities were qualified and certified in accordance with SPC's Quality Assurance Program. A copy of personnel certifications is provided in the Project Plan.

TEST EQUIPMENT

Equipment used in support of testing activities was calibrated in accordance with SPC's Quality Assurance Program. Copies of equipment calibration certificates are included in the Project Plan.

REFERENCES:

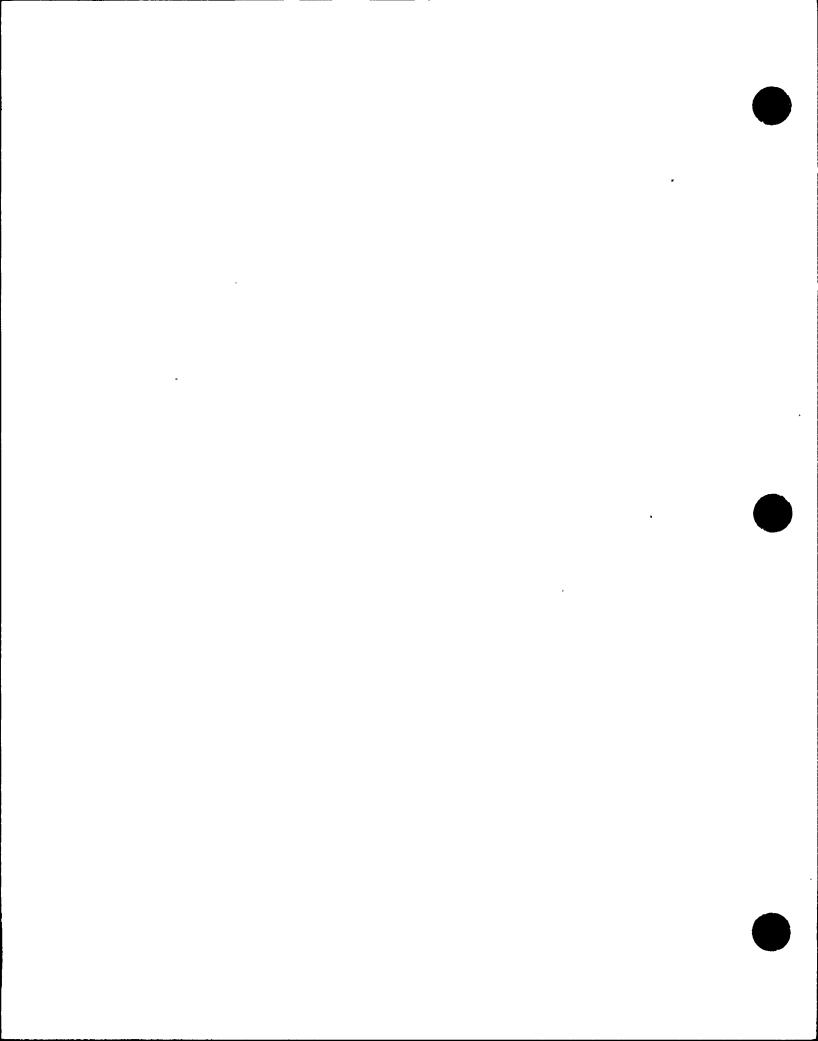
FPL Procedures:

FPL ADM 0190.83	Mechanical Shock Arrestors Surveillance Program
FPL OP 0209.9	Visual Examination of Mechanical Shock Arrestors
FPL ADM 0190.85	Functional Testing of Mechanical Shock Arrestors
FPL 0-CMM-105.1	Snubber Removal and Replacement

TPN General Maintenance items for MSA

SPC Procedures:

SPC SNPS-PP-3319-TPN SNPS-CAL-1.2, REV. 1	Quality Assurance Manual Rev. 14 Project Plan Daily Verification of Test Equipment
SNPS-EXM-1.1, REV.0 SNPS-TST-1.1, REV. 0	Visual Examination of Mechanical Functional Testing of Pacific Scientific Mechanical Snubbers
SNPS-MNT-3.1, REV. 0	Disassembly and Repair of PSA Snubbers



MATERIAL SUPPLIED BY FPL:

Replacement Spacer washers and load pins
 Safety Wire for Forward Brackets and Transition Tube Assemblies on PSA Snubbers

3) Washers, retainer rings, keeper rings & NRRG 159
4) Spare PSA 3's, 10's & 35's

