

NRR-PMDAPEm Resource

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To: Mozafari, Brenda
Subject: Calculation DA-EE-93-006-08 Rev 2 Part 3
Attachments: DA-EE-93-006-08 r2 part 3.pdf

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315-791-5219

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TABLE 5-2. VOLTAGE SOURCE AMPLITUDE WITH 2.0% MAX. THD. CHECKS.

RANGE	LOAD	VALUE	MINIMUM	MAXIMUM	AS FOUND	AS LEFT
75 V	70.3 Ω	7.5 V	7.425 V	7.575 V		
		37.5 V	37.31 V	37.69 V		
		75.0 V	74.62 V	75.38 V		
150 V	281 Ω	15.0 V	14.85 V	15.15 V		
		75.0 V	74.62 V	75.38 V		
		150.0 V	149.2 V	150.8 V		
300 V	1125 Ω	30.0 V	29.70 V	30.30 V		
		150.0 V	149.2 V	150.8 V		
		300.0 V	298.5 V	301.5 V		

TABLE 5-3. VOLTAGE SOURCE PHASE ANGLE & REGULATION CHECKS.

RANGE	AMPL.	LOAD	PHASE	MINIMUM	MAXIMUM	AS FOUND	AS LEFT
75 V	75.0 V	OPEN	000.0	-000.5°	+000.5°		
		70.3 Ω	000.0	-000.5°	+000.5°		
		38 μ Fd	000.0	-000.5°	+000.5°		
150 V	150.0 V	OPEN	000.0	-000.5°	+000.5°		
		281 Ω	000.0	-000.5°	+000.5°		
		9.5 μ Fd	000.0	-000.5°	+000.5°		
300 V	300.0 V	OPEN	000.0	-000.5°	+000.5°		
		1125 Ω	000.0	-000.5°	+000.5°		
		2.35 μ Fd	000.0	-000.5°	+000.5°		

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TABLE 5-4. CURRENT SOURCE AMPLITUDE WITH 2.0% MAX. THD. CHECKS.

RANGE	LOAD	VALUE	MINIMUM	MAXIMUM	AS FOUND	AS LEFT
3.25 A	9.89 Ω + SHUNT	0.320 A	31.60 mV	32.40 mV		
		1.600 A	159.20 mV	160.80 mV		
		3.250 A	32.24 mV	32.76 mV		
	INDUCTOR	3.250 A	32.24 mV	32.76 mV		
13 A	0.571 Ω + SHUNT	1.30 A	128.60 mV	131.40 mV		
		6.50 A	64.66 mV	65.34 mV		
		13.00 A	129.34 mV	130.66 mV		
	INDUCTOR	13.00 A	129.34 mV	130.66 mV		
26 A	0.154 Ω + SHUNT	2.60 A	25.74 mV	26.26 mV		
		13.00 A	129.34 mV	130.66 mV		
	0.105 Ω + SHUNT	26.00 A	25.87 mV	26.13 mV		
		INDUCTOR	26.00 A	25.87 mV	26.13 mV	

TABLE 5-5. CURRENT SOURCE PHASE ANGLE & REGULATION CHECKS.

RANGE	AMPL.	LOAD	PHASE	MINIMUM	MAXIMUM	AS FOUND	AS LEFT
3.25 A	3.250 A	SHORT	000.0	-000.5°	+000.5°		
		9.89 Ω	000.0	-000.5°	+000.5°		
		INDUCTOR	000.0	-000.5°	+000.5°		
13 A	13.00 A	SHORT	000.0	-000.5°	+000.5°		
		0.571 Ω	000.0	-000.5°	+000.5°		
		INDUCTOR	000.0	-000.5°	+000.5°		
26 A	26.00 A	SHORT	000.0	-000.5°	+000.5°		
		0.105 Ω	000.0	-000.5°	+000.5°		
		INDUCTOR	000.0	-000.5°	+000.5°		

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TABLE 5-6. F2300/F2350 HIGH POWER CURRENT SOURCES AMPLITUDE WITH 2.0% MAX. THD. CHECKS.

RANGE	LOAD	VALUE	MINIMUM	MAXIMUM	AS FOUND	AS LEFT
5.000 A	19.95 Ω + SHUNT	0.50 A	49.40 mV	50.60 mV		
		2.50 A	24.88 mV	25.12 mV		
		5.00 A	49.75 mV	50.25 mV		
10.00 A	4.950 Ω + SHUNT	1.00 A	99.00 mV	101.00 mV		
		5.00 A	49.74 mV	50.26 mV		
		10.00 A	99.50 mV	100.50 mV		
15.00 A	2.172 Ω + SHUNT	1.50 A	148.50 mV	151.50 mV		
		7.50 A	74.62 mV	75.38 mV		
		15.00 A	149.24 mV	150.76 mV		
20.00 A	1.200 Ω + SHUNT	2.00 A	198.00 mV	202.00 mV		
		10.00 A	99.50 mV	100.50 mV		
		20.00 A	199.00 mV	201.00 mV		
25.00 A	0.780 Ω + SHUNT	2.50 A	24.75 mV	25.25 mV		
		12.50 A	124.37 mV	125.63 mV		
		25.00 A	24.87 mV	25.13 mV		
30.00 A	0.535 Ω + SHUNT	3.00 A	29.70 mV	30.30 mV		
		15.00 A	149.25 mV	150.75 mV		
		30.00 A	29.70 mV	30.30 mV		
40.00 A	0.292 Ω + SHUNT	4.00 A	39.60 mV	40.40 mV		
		20.00 A	199.00 mV	201.00 mV		
		40.00 A	39.80 mV	40.20 mV		
50.00 A	0.1800 Ω + SHUNT	5.00 A	49.50 mV	50.50 mV		
		25.00 A	24.87 mV	25.13 mV		
		50.00 A	49.75 mV	50.25 mV		

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TABLE 5-6. (CONT.) F2300/F2350 HIGH POWER CURRENT SOURCES AMPLITUDE WITH 2.0% MAX. THD. CHECKS.

RANGE	LOAD	VALUE	MINIMUM	MAXIMUM	AS FOUND	AS LEFT
80.00 A	0.0681 Ω + SHUNT	8.00 A	79.20 mV	80.8 mV		
		40.00 A	39.80 mV	40.2 mV		
		80.00 A	79.60 mV	80.4 mV		
160.0 A	0.0095 Ω + SHUNT	16.00 A	15.80 mV	16.2 mV		
		80.00 A	79.60 mV	80.4 mV		
		100.0 A	99.50 mV	100.5 mV		

TABLE 5-7. F2300A HIGH POWER CURRENT SOURCE AMPLITUDE WITH 2.0% MAX. THD. CHECKS.

RANGE	LOAD	VALUE	MINIMUM	MAXIMUM	AS FOUND	AS LEFT
5.00 A	19.95 Ω + SHUNT	0.500 A	49.40 mV	50.60 mV		
		2.500 A	24.88 mV	25.12 mV		
		5.000 A	49.75 mV	50.25 mV		
15.00 A	2.17 Ω + SHUNT	1.50 A	148.50 mV	151.50 mV		
		7.50 A	74.62 mV	75.38 mV		
		15.00 A	149.24 mV	150.76 mV		
30.00 A	0.535 Ω + SHUNT	3.00 A	29.70 mV	30.30 mV		
		15.00 A	149.25 mV	150.75 mV		
		30.00 A	29.70 mV	30.30 mV		
45.00 A	0.227 Ω + SHUNT	4.50 A	44.55 mV	45.45 mV		
		22.50 A	22.38 mV	22.62 mV		
		45.00 A	44.77 mV	45.23 mV		
70.00 A	0.092 Ω + SHUNT	7.0 A	69.30 mV	70.70 mV		
		35.0 A	34.82 mV	35.18 mV		
		70.0 A	69.65 mV	70.35 mV		
160.0 A	0.0185 Ω + SHUNT	16.0 A	15.60 mV	16.20 mV		
		80.0 A	79.60 mV	80.40 mV		
		100.0 A	99.50 mV	100.50 mV		

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TABLE 5-8. H/L CURRENT SOURCE PHASE ANGLE & REGULATION CHECKS.

RANGE	AMPL.	LOAD	PHASE	MINIMUM	MAXIMUM	AS FOUND	AS LEFT
5 A	5.000 A	SHORT	000.0	-000.5°	+000.5°		
		19.95 Ω + SHUNT	000.0	-000.5°	+000.5°		
30 A	30.00 A	SHORT	000.0	-000.5°	+000.5°		
		0.544 Ω + SHUNT	000.0	-000.5°	+000.5°		
160 A	100.0 A	SHORT	000.0	-000.5°	+000.5°		
		0.0395 Ω + SHUNT	000.0	-000.5°	+000.5°		

DC VOLTAGE SOURCE AMPLITUDE CHECKS.

RANGE	LOAD	VALUE	MINIMUM	MAXIMUM	AS FOUND	AS LEFT
75 V	70.3 Ω	7.5 V	7.425 V	7.575 V		
		37.5 V	37.31 V	37.69 V		
		75.0 V	74.62 V	75.38 V		
150 V	281 Ω	15.0 V	14.85 V	15.15 V		
		75.0 V	74.62 V	75.38 V		
		150.0 V	149.2 V	150.8 V		
300 V	1125 Ω	30.0 V	29.70 V	30.30 V		
		150.0 V	149.2 V	150.8 V		
		300.0 V	298.5 V	301.5 V		

DC CURRENT SOURCE AMPLITUDE CHECKS.

RANGE	LOAD	VALUE	MINIMUM	MAXIMUM	AS FOUND	AS LEFT
3.25 A	9.89 Ω + SHUNT	0.320 A	31.5 mV	32.4 mV		
		1.600 A	159.2 mV	160.8 mV		
		3.250 A	32.24 mV	32.76 mV		

ALL FREQUENCIES ARE +/- 0.01% OF NOMINAL: _____ PASS _____ FAILED.

RESULT OF TOTAL HARMONIC DISTORTIONS CHECKS: _____ PASS _____ FAILED.

NOTE: For SHUNT use a shunt whose value will provide the expected millivolt nominal value specified in the tables.

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REV. 2 TOTAL P. 88

No. Calib.
Sets= 48

Test Calibration Points: 2

Function: ITE-27

Calib. Set No.	TAG	MODEL	FUNCTION	A/L Date	A/F Date	Days	A/L Value	A/F Value	DELTA Vac	DELTA %Span
1	27B-18	ABB-ITE-27	480V-UVD	3/31/91	3/19/94	1084	104.510	105.000	0.490	0.4083
2	27B-18	ABB-ITE-27	480V-UVD	3/31/91	3/19/94	1084	104.710	0.000	-104.710	-87.2583
3	27B-18	ABB-ITE-27	480V-UVD	3/19/94	4/11/95	388	104.800	104.800	0.000	0.0000
4	27B-18	ABB-ITE-27	480V-UVD	3/19/94	4/11/95	388	104.900	0.000	-104.900	-87.4167
5	27B-18	ABB-ITE-27	480V-UVD	4/11/95	4/12/96	367	105.000	104.700	-0.300	-0.2500
6	27B-18	ABB-ITE-27	480V-UVD	4/11/95	4/12/96	367	105.200	0.000	-105.200	-87.6667
7	27B-18	ABB-ITE-27	480V-UVD	4/12/96	10/28/97	564	104.800	105.700	0.900	0.7500
8	27B-18	ABB-ITE-27	480V-UVD	4/12/96	10/28/97	564	105.000	0.000	-105.000	-87.5000
9	27B-18	ABB-ITE-27	480V-UVD	10/28/97	3/9/99	497	105.200	106.100	0.900	0.7500
10	27B-18	ABB-ITE-27	480V-UVD	10/28/97	3/9/99	497	106.000	0.000	-106.000	-88.3333
11	27B-18	ABB-ITE-27	480V-UVD	3/9/99	9/26/00	567	105.600	105.300	-0.300	-0.2500
12	27B-18	ABB-ITE-27	480V-UVD	3/9/99	9/26/00	567	105.800	0.000	-105.800	-88.1667
13	27B-18	ABB-ITE-27	480V-UVD	3/31/91	3/16/94	1081	104.510	104.400	-0.110	-0.0917
14	27B-18	ABB-ITE-27	480V-UVD	3/31/91	3/16/94	1081	104.720	0.000	-104.720	-87.2667
15	27B-18	ABB-ITE-27	480V-UVD	3/16/94	4/11/95	391	104.900	104.600	-0.300	-0.2500
16	27B-18	ABB-ITE-27	480V-UVD	3/16/94	4/11/95	391	104.910	0.000	-104.910	-87.4250
17	27B-18	ABB-ITE-27	480V-UVD	4/11/95	4/11/96	366	104.800	104.600	-0.200	-0.1667
18	27B-18	ABB-ITE-27	480V-UVD	4/11/95	4/11/96	366	105.000	0.000	-105.000	-87.5000
19	27B-18	ABB-ITE-27	480V-UVD	4/11/96	10/27/97	564	105.000	105.600	0.600	0.5000
20	27B-18	ABB-ITE-27	480V-UVD	4/11/96	10/27/97	564	105.500	0.000	-105.500	-87.9167
21	27B-18	ABB-ITE-27	480V-UVD	10/27/97	3/9/99	498	105.300	105.700	0.400	0.3333
22	27B-18	ABB-ITE-27	480V-UVD	10/27/97	3/9/99	498	105.500	0.000	-105.500	-87.9167
23	27B-18	ABB-ITE-27	480V-UVD	3/9/99	9/26/00	567	105.400	105.000	-0.400	-0.3333
24	27B-18	ABB-ITE-27	480V-UVD	3/9/99	9/26/00	567	105.600	0.000	-105.600	-88.0000
25	27B-17	ABB-ITE-27	480V-UVD	3/29/91	3/23/94	1090	104.670	105.100	0.430	0.3583
26	27B-17	ABB-ITE-27	480V-UVD	3/29/91	3/23/94	1090	105.030	0.000	-105.030	-87.5250
27	27B-17	ABB-ITE-27	480V-UVD	3/23/94	4/10/95	383	104.900	104.800	-0.100	-0.0833
28	27B-17	ABB-ITE-27	480V-UVD	3/23/94	4/10/95	383	105.000	0.000	-105.000	-87.5000
29	27B-17	ABB-ITE-27	480V-UVD	4/10/95	4/23/96	379	104.800	104.900	0.100	0.0833
30	27B-17	ABB-ITE-27	480V-UVD	4/10/95	4/23/96	379	105.000	0.000	-105.000	-87.5000
31	27B-17	ABB-ITE-27	480V-UVD	4/23/96	11/1/97	557	104.800	104.600	-0.200	-0.1667
32	27B-17	ABB-ITE-27	480V-UVD	4/23/96	11/1/97	557	104.800	0.000	-104.800	-87.3333
33	27B-17	ABB-ITE-27	480V-UVD	11/1/97	3/8/99	492	105.300	105.700	0.400	0.3333
34	27B-17	ABB-ITE-27	480V-UVD	11/1/97	3/8/99	492	106.000	0.000	-106.000	-88.3333
35	27B-17	ABB-ITE-27	480V-UVD	3/8/99	9/30/00	572	105.200	104.400	-0.800	-0.6667
36	27B-17	ABB-ITE-27	480V-UVD	3/8/99	9/30/00	572	105.500	0.000	-105.500	-87.9167
37	27-17	ABB-ITE-27	480V-UVD	3/29/91	3/21/94	1088	104.710	105.200	0.490	0.4083

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Test Calibration Points: 2

Function: ITE-27

Calib. Set No.	TAG	MODEL	FUNCTION	AVL Date	A/F Date	Days	AVL Value	A/F Value	DELTA Vac	DELTA %Span
20	27-17	ABB-ITE-27	480V-UVD	3/29/91	3/21/94	1088	105.240	0.000	-105.240	-87.7000
				3/21/94	4/10/95	385	104.900	104.500	-0.400	-0.3333
				3/21/94	4/10/95	385	104.910	0.000	-104.910	-87.4250
21	27-17	ABB-ITE-27	480V-UVD	4/10/95	4/23/96	379	104.800	105.400	0.600	0.5000
				4/10/95	4/23/96	379	105.300	0.000	-105.300	-87.7500
22	27-17	ABB-ITE-27	480V-UVD	4/23/96	11/1/97	557	104.800	104.600	-0.200	-0.1667
				4/23/96	11/1/97	557	105.100	0.000	-105.100	-87.5833
23	27-17	ABB-ITE-27	480V-UVD	11/1/97	3/8/99	492	105.200	105.300	0.100	0.0833
				11/1/97	3/8/99	492	105.400	0.000	-105.400	-87.8333
24	27-17	ABB-ITE-27	480V-UVD	3/8/99	9/30/00	572	105.300	104.900	-0.400	-0.3333
				3/8/99	9/30/00	572	105.400	0.000	-105.400	-87.8333
25	27B-16	ABB-ITE-27	480V-UVD	3/27/91	3/18/94	1087	104.540	105.100	0.560	0.4667
				3/27/91	3/18/94	1087	104.670	0.000	-104.670	-87.2250
26	27B-16	ABB-ITE-27	480V-UVD	3/18/94	4/9/95	387	104.800	104.300	-0.500	-0.4167
				3/18/94	4/9/95	387	105.000	0.000	-105.000	-87.5000
27	27B-16	ABB-ITE-27	480V-UVD	4/9/95	4/22/96	379	104.900	104.900	0.000	0.0000
				4/9/95	4/22/96	379	105.000	0.000	-105.000	-87.5000
28	27B-16	ABB-ITE-27	480V-UVD	4/22/96	11/1/97	558	104.900	105.300	0.400	0.3333
				4/22/96	11/1/97	558	104.900	0.000	-104.900	-87.4167
29	27B-16	ABB-ITE-27	480V-UVD	11/1/97	3/6/99	490	105.200	105.400	0.200	0.1667
				11/1/97	3/6/99	490	105.300	0.000	-105.300	-87.7500
30	27B-16	ABB-ITE-27	480V-UVD	3/6/99	10/2/00	576	105.300	105.100	-0.200	-0.1667
				3/6/99	10/2/00	576	105.400	0.000	-105.400	-87.8333
31	27-16	ABB-ITE-27	480V-UVD	3/26/91	3/18/94	1088	104.500	104.800	0.300	0.2500
				3/26/91	3/18/94	1088	104.800	0.000	-104.800	-87.3333
32	27-16	ABB-ITE-27	480V-UVD	3/18/94	4/9/95	387	104.900	104.600	-0.300	-0.2500
				3/18/94	4/9/95	387	105.200	0.000	-105.200	-87.6667
33	27-16	ABB-ITE-27	480V-UVD	4/9/95	4/22/96	379	105.100	105.300	0.200	0.1667
				4/9/95	4/22/96	379	105.300	0.000	-105.300	-87.7500
34	27-16	ABB-ITE-27	480V-UVD	4/22/96	10/31/97	557	104.900	104.900	0.000	0.0000
				4/22/96	10/31/97	557	105.100	0.000	-105.100	-87.5833
35	27-16	ABB-ITE-27	480V-UVD	10/31/97	3/5/99	490	105.500	105.700	0.200	0.1667
				10/31/97	3/5/99	490	105.600	0.000	-105.600	-88.0000
36	27-16	ABB-ITE-27	480V-UVD	3/5/99	10/2/00	577	105.200	105.200	0.000	0.0000
				3/5/99	10/2/00	577	105.500	0.000	-105.500	-87.9167
37	27B-14	ABB-ITE-27	480V-UVD	3/25/91	3/16/94	1087	104.500	105.600	1.100	0.9167
				3/25/91	3/16/94	1087	104.800	0.000	-104.800	-87.3333
38	27B-14	ABB-ITE-27	480V-UVD	3/16/94	4/10/95	390	105.100	104.600	-0.500	-0.4167
				3/16/94	4/10/95	390	105.600	0.000	-105.600	-88.0000

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Test Calibration Points: 2 Function: ITE-27

Calib. Set No.	TAG	MODEL	FUNCTION	A/L Date	A/F Date	Days	A/L Value	A/F Value	DELTA Vac	DELTA %Span
39	27B-14	ABB-ITE-27	480V-UVD	4/10/95	4/10/96	366	105.000	104.300	-0.700	-0.5833
40	27B-14	ABB-ITE-27	480V-UVD	4/10/95	4/10/96	366	105.200	0.000	-105.200	-87.6667
41	27B-14	ABB-ITE-27	480V-UVD	4/10/96	10/28/97	566	105.100	105.200	0.100	0.0833
42	27B-14	ABB-ITE-27	480V-UVD	4/10/96	10/28/97	566	105.900	0.000	-105.900	-88.2500
43	27-14	ABB-ITE-27	480V-UVD	10/28/97	3/3/99	491	105.300	106.200	0.900	0.7500
44	27-14	ABB-ITE-27	480V-UVD	10/28/97	3/3/99	491	105.600	0.000	-105.600	-88.0000
45	27-14	ABB-ITE-27	480V-UVD	3/3/99	9/26/00	573	105.500	105.700	0.200	0.1667
46	27-14	ABB-ITE-27	480V-UVD	3/3/99	9/26/00	573	105.600	0.000	-105.600	-88.0000
47	27-14	ABB-ITE-27	480V-UVD	3/23/91	3/16/94	1089	104.500	104.800	0.300	0.2500
48	27-14	ABB-ITE-27	480V-UVD	3/23/91	3/16/94	1089	104.860	0.000	-104.860	-87.3833
49	27-14	ABB-ITE-27	480V-UVD	3/16/94	4/9/95	389	104.800	104.600	-0.200	-0.1667
50	27-14	ABB-ITE-27	480V-UVD	3/16/94	4/9/95	389	105.200	0.000	-105.200	-87.6667
51	27-14	ABB-ITE-27	480V-UVD	4/9/95	4/10/96	367	105.000	104.900	-0.100	-0.0833
52	27-14	ABB-ITE-27	480V-UVD	4/9/95	4/10/96	367	105.300	0.000	-105.300	-87.7500
53	27-14	ABB-ITE-27	480V-UVD	4/10/96	10/28/97	566	104.900	105.000	0.100	0.0833
54	27-14	ABB-ITE-27	480V-UVD	4/10/96	10/28/97	566	105.500	0.000	-105.500	-87.9167
55	27-14	ABB-ITE-27	480V-UVD	10/28/97	3/3/99	491	105.200	105.700	0.500	0.4167
56	27-14	ABB-ITE-27	480V-UVD	10/28/97	3/3/99	491	105.400	0.000	-105.400	-87.8333
57	27-14	ABB-ITE-27	480V-UVD	3/3/99	9/26/00	573	105.200	105.000	-0.200	-0.1667
58	27-14	ABB-ITE-27	480V-UVD	3/3/99	9/26/00	573	105.500	0.000	-105.500	-87.9167

Function: ITE-27

Bin	Freq	Exp Freq
-1.0259	0	0.2976
-0.8432	1	0.7968
-0.6604	1	2.1168
-0.4777	5	4.4112
-0.2950	10	7.1952
-0.1122	7	9.1920
0.0705	10	9.1920
0.2532	7	7.1952
0.4360	3	4.4112
0.6187	3	2.1168
0.8014	1	0.7968
0.9842	0	0.2976
1.1669		
> ± 3 s	0	

Mean= 0.0705

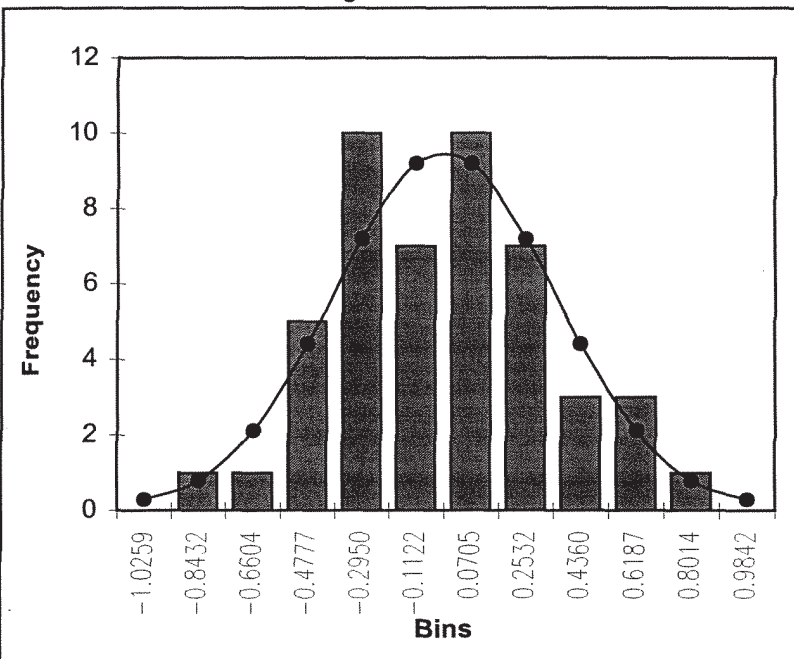
Bin Size= 0.1827

s= 0.3655

Pt-1

Histogram

Raw Data



Time Int. = 1

Start = 366

End = 1090

Bin	Freq	Exp Freq
-1.0876	0	0.2976
-0.9133	1	0.7968
-0.7390	1	2.1168
-0.5647	5	4.4112
-0.3903	11	7.1952
-0.2160	6	9.1920
-0.0417	10	9.1920
0.1326	7	7.1952
0.3070	3	4.4112
0.4813	3	2.1168
0.6556	1	0.7968
0.8299	0	0.2976
1.0043		
> ± 3 s	0	

Mean= -0.0417

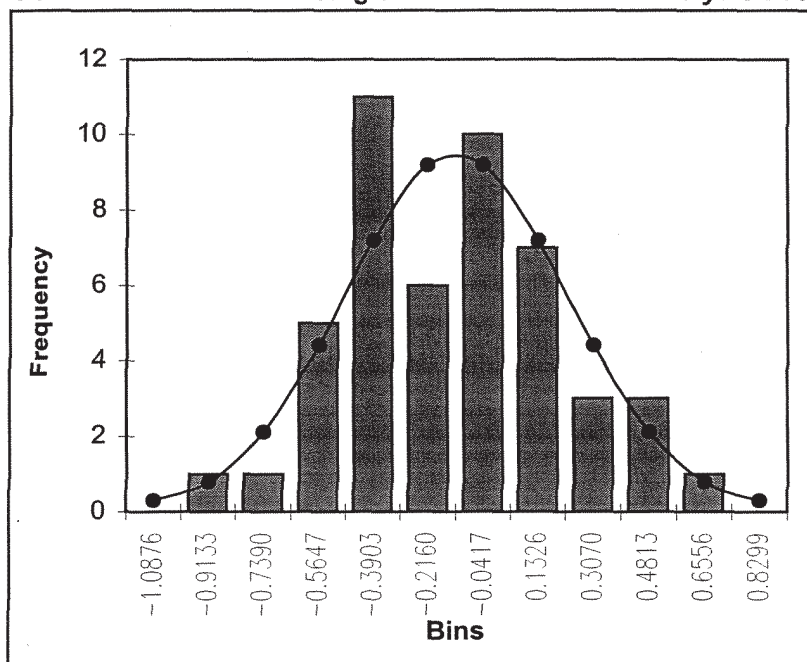
Bin Size= 0.1743

s= 0.3486

Pt-1

Histogram

Analysis Data



Function: ITE-27

Bin	Freq	Exp Freq
-88.5731	0	0.2976
-88.4283	2	0.7968
-88.2834	2	2.1168
-88.1385	5	4.4112
-87.9937	6	7.1952
-87.8488	8	9.1920
-87.7040	7	9.1920
-87.5591	11	7.1952
-87.4143	4	4.4112
-87.2694	3	2.1168
-87.1246	0	0.7968
-86.9797	0	0.2976
> ± 3 s	0	

Mean= -87.7040

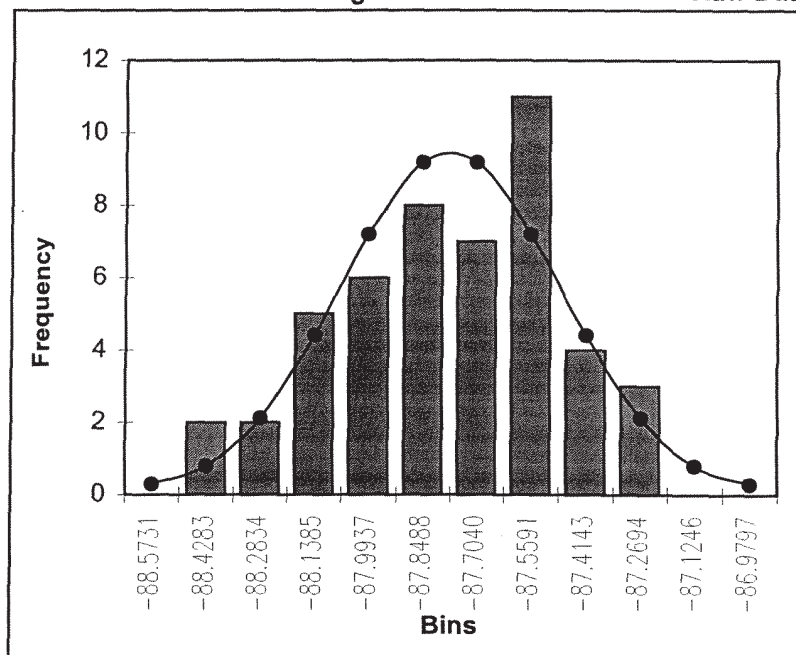
Bin Size= 0.1449

s= 0.2897

Pt-2

Histogram

Raw Data



Time Int. = 1

Start = 366

End = 1090

Bin	Freq	Exp Freq
-108.1933	0	0.2976
-92.3082	0	0.7968
-76.4232	0	2.1168
-60.5381	0	4.4112
-44.6531	16	7.1952
-28.7681	24	9.1920
-12.8830	0	9.1920
3.0020	0	7.1952
18.8871	0	4.4112
34.7721	0	2.1168
50.6572	8	0.7968
66.5422	0	0.2976
82.4272		
> ± 3 s	0	

Mean= -12.8830

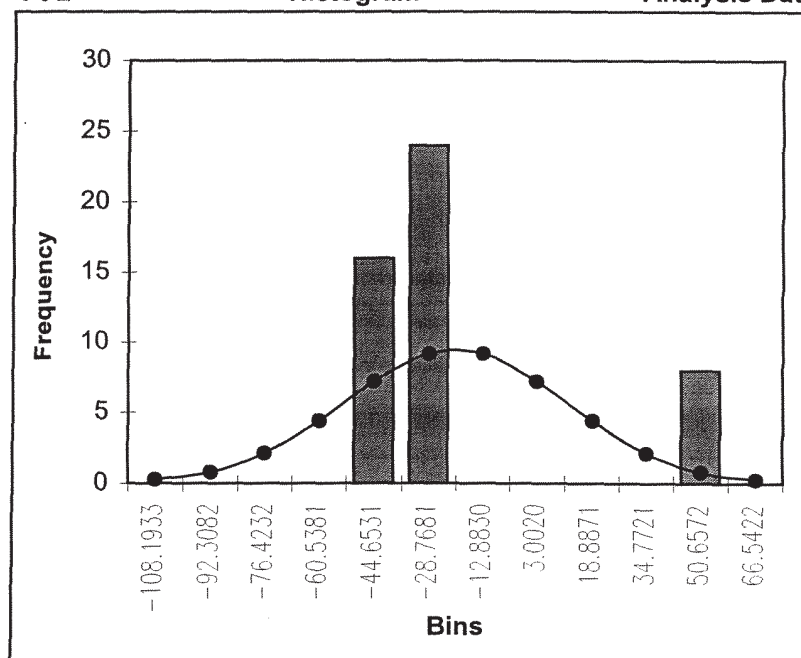
Bin Size= 15.8850

s= 31.7701

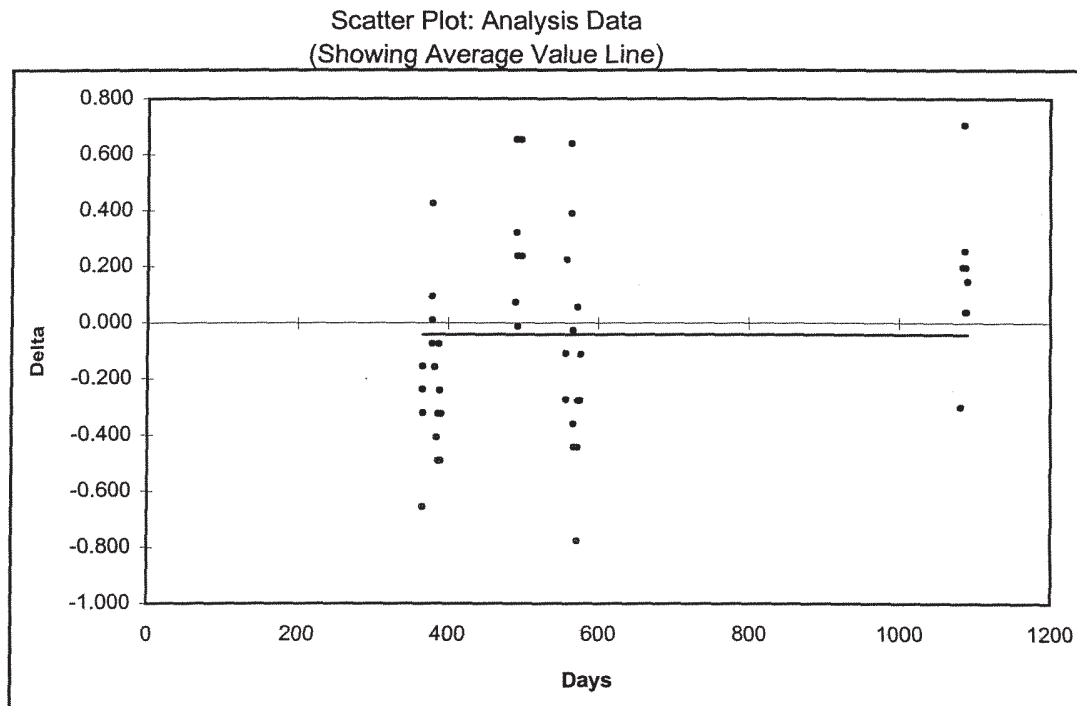
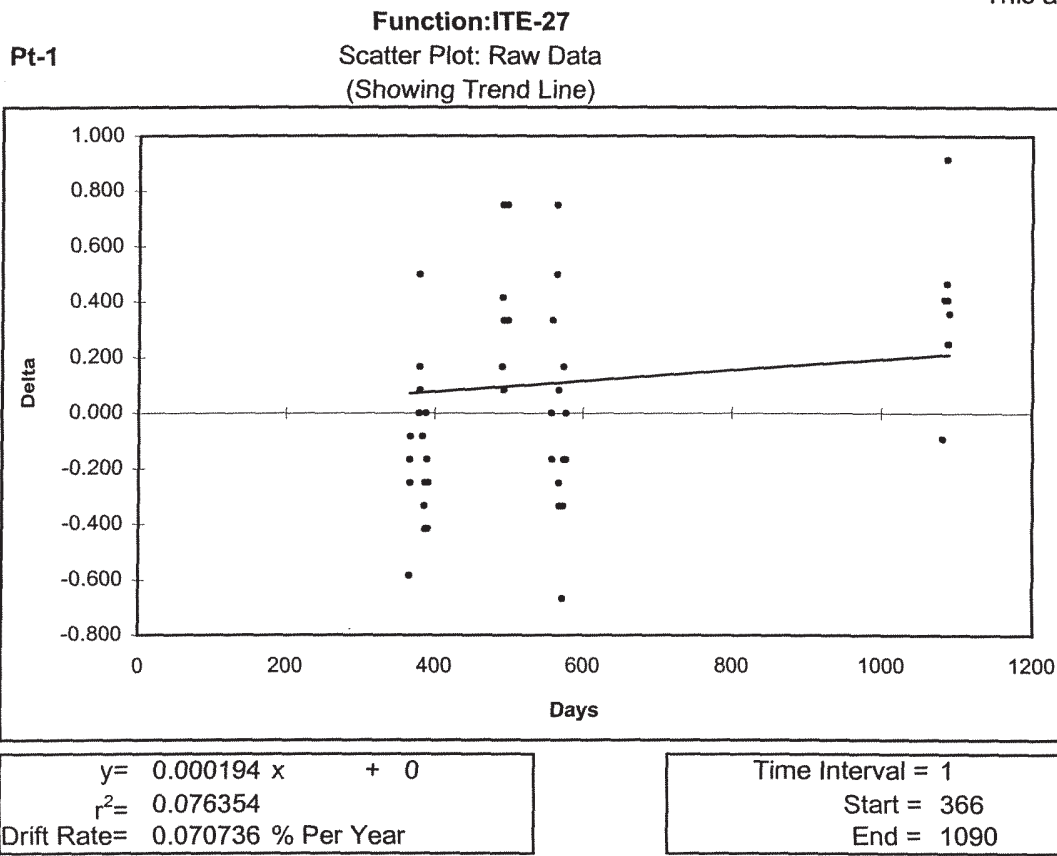
Pt-2

Histogram

Analysis Data



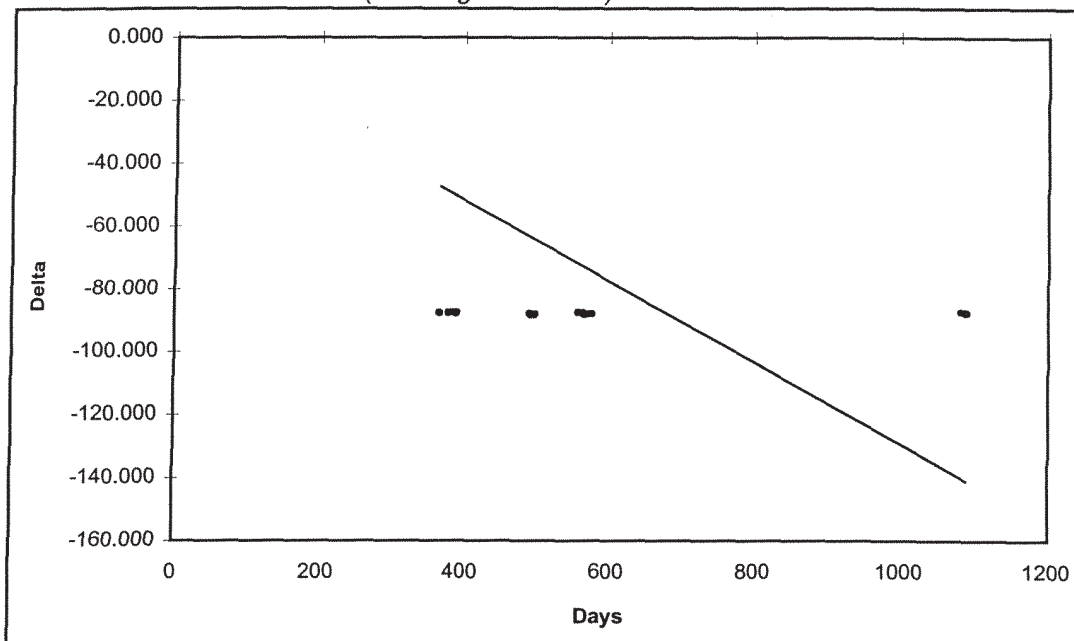
This application is
Create



This application is
Create

Pt-2

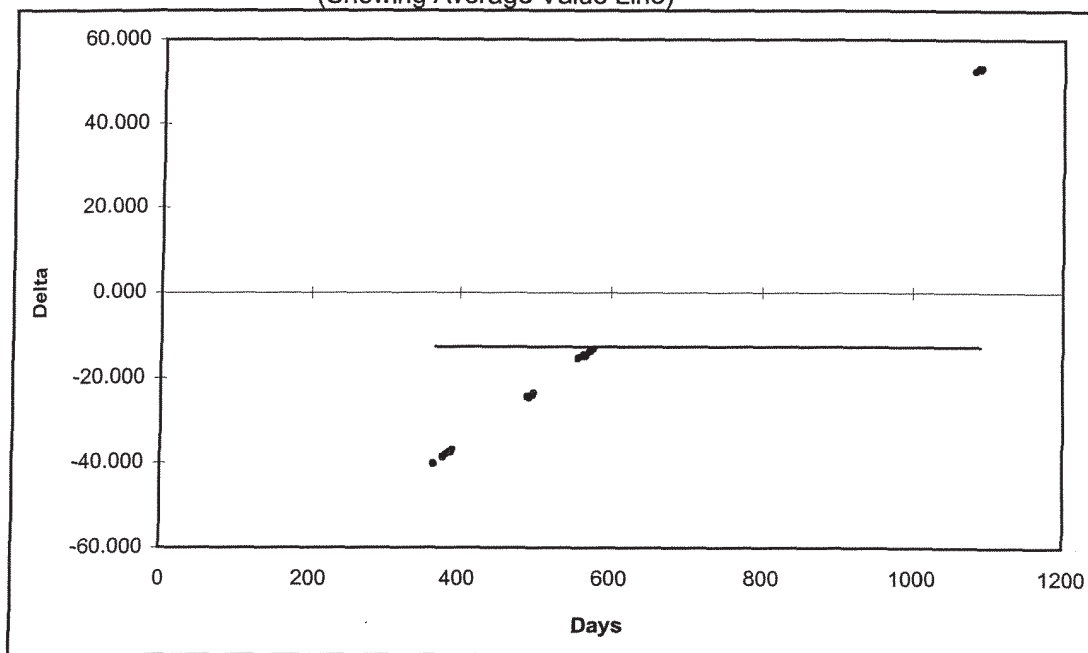
Function:ITE-27
Scatter Plot: Raw Data
(Showing Trend Line)



$y = -0.129266x + 0$
 $r^2 = -14088.75$
Drift Rate = -47.18222 % Per Year

Time Interval = 1
Start = 366
End = 1090

Scatter Plot: Analysis Data
(Showing Average Value Line)

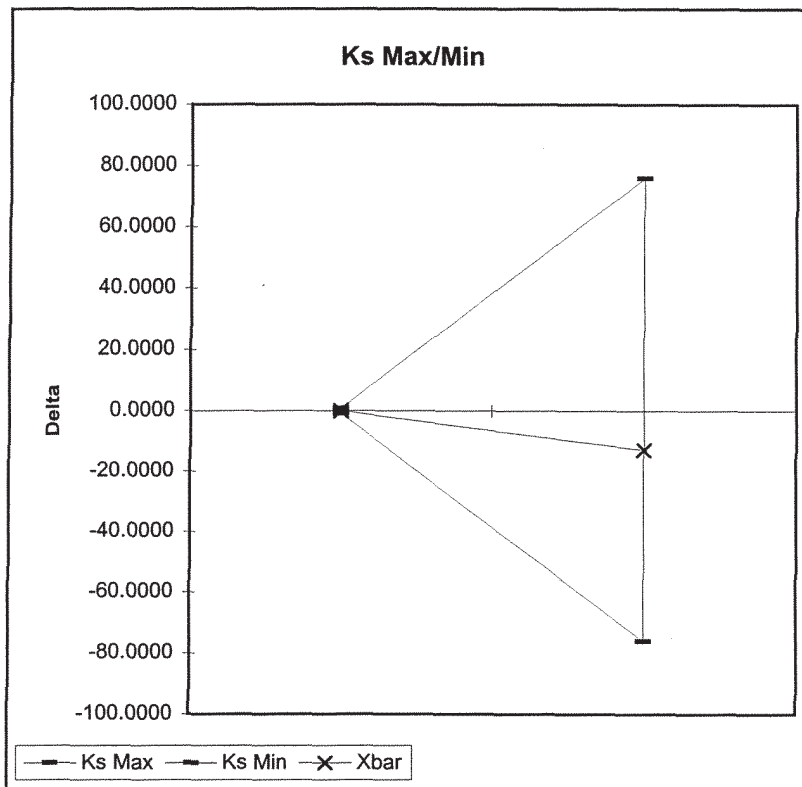


Attachment 6
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DA-EE-93-006-08

Revision 2

Function= ITE-27

Two-Sided

Ks Results Summary

Function= ITE-27
Time Interval = 1

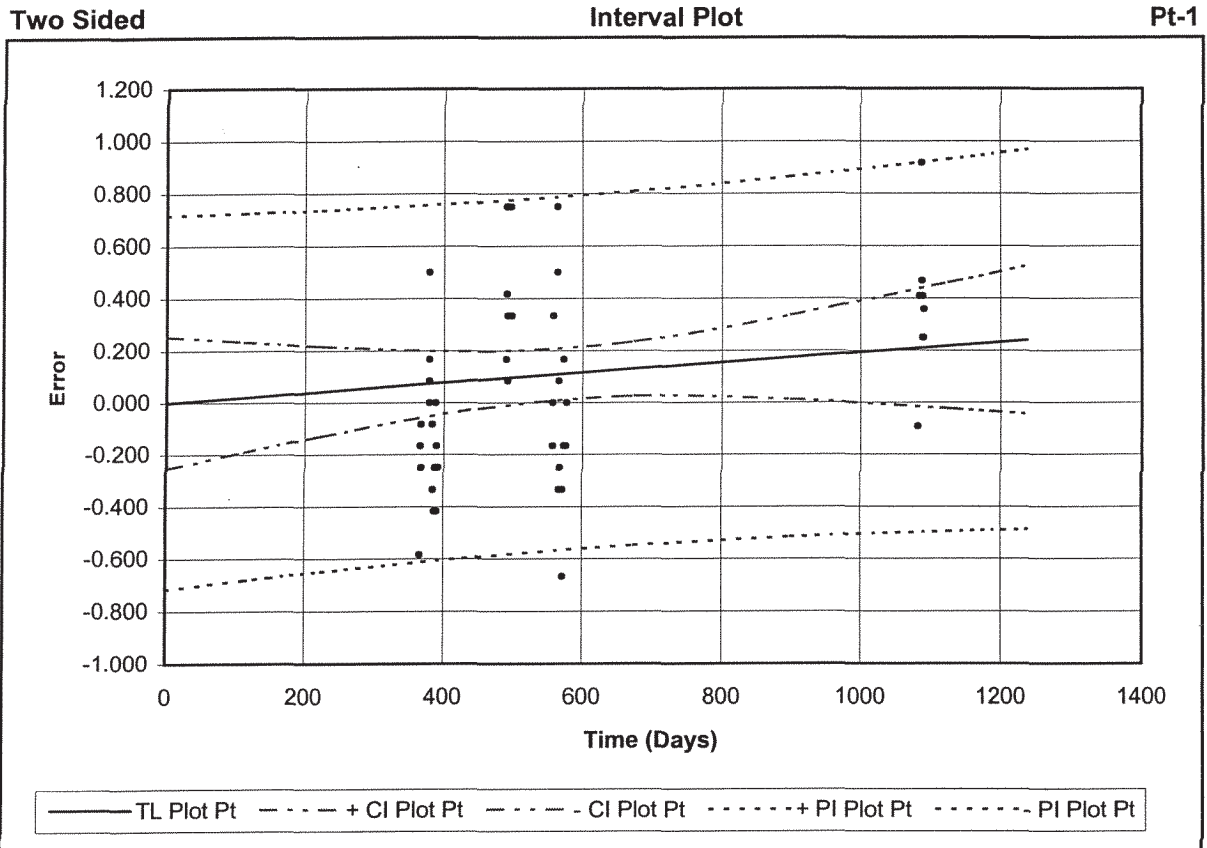
Setpoint:	Two-Sided	
	Trip	Reset
Conf. Level =	0.95	0.95
Probability =	0.95	0.95
s=	0.3486	31.7701
K=	2.3906	2.3906
Ks(max) =	0.8335	75.9496
Ks(min) =	-0.8335	-75.9496
xbar =	-0.0417	-12.8830
Ks(max)+xbar=	0.7918	63.0665
Ks(min)+xbar=	-0.8752	-88.8326
Drit Rate(per year)=	0.0707	-47.1822
y intercept=	0.0000	0.0000

Normality Test Results SummaryFunction= **ITE-27**

Time Interval = 1

Two-Sided

Setpoint:	Trip	Reset
Test Type=	W Test	W Test
Number Points=	48	48
Normal=	YES	NO
W=	0.9705	0.7023
p=	0.9470	0.9470
X(min)=	-0.7775	-40.3552
X(max)=	0.7060	53.3877
P=	0.05	0.05



Days	Trend Line	Confidence Interval			Prediction Interval		
	TL Plot Pt	+/- Value	+ CI Plot Pt	- CI Plot Pt	+/- Value	+ PI Plot Pt	- PI Plot Pt
0	0.0000	0.2529	0.2529	-0.2529	0.7167	0.7167	-0.7167
112.5	0.0218	0.2117	0.2335	-0.1899	0.7032	0.7250	-0.6814
225	0.0436	0.1725	0.2161	-0.1289	0.6924	0.7360	-0.6488
450	0.0872	0.1099	0.1971	-0.0227	0.6795	0.7667	-0.5923
675	0.1308	0.1043	0.2351	0.0265	0.6787	0.8095	-0.5478
900	0.1744	0.1618	0.3362	0.0126	0.6898	0.8643	-0.5154
1125	0.2180	0.2408	0.4588	-0.0228	0.7125	0.9305	-0.4945
1237.5	0.2398	0.2830	0.5228	-0.0431	0.7278	0.9677	-0.4880

Number of Points = 48

t Value= 2.012894

Trendline Slope= 0.000194 %Span / Day

Trendline Intercept= 0 %Span

s= 0.333148 %Span

alpha= 0.05

Time Int. = 1

Start = 366

End = 1090

Attachment 6

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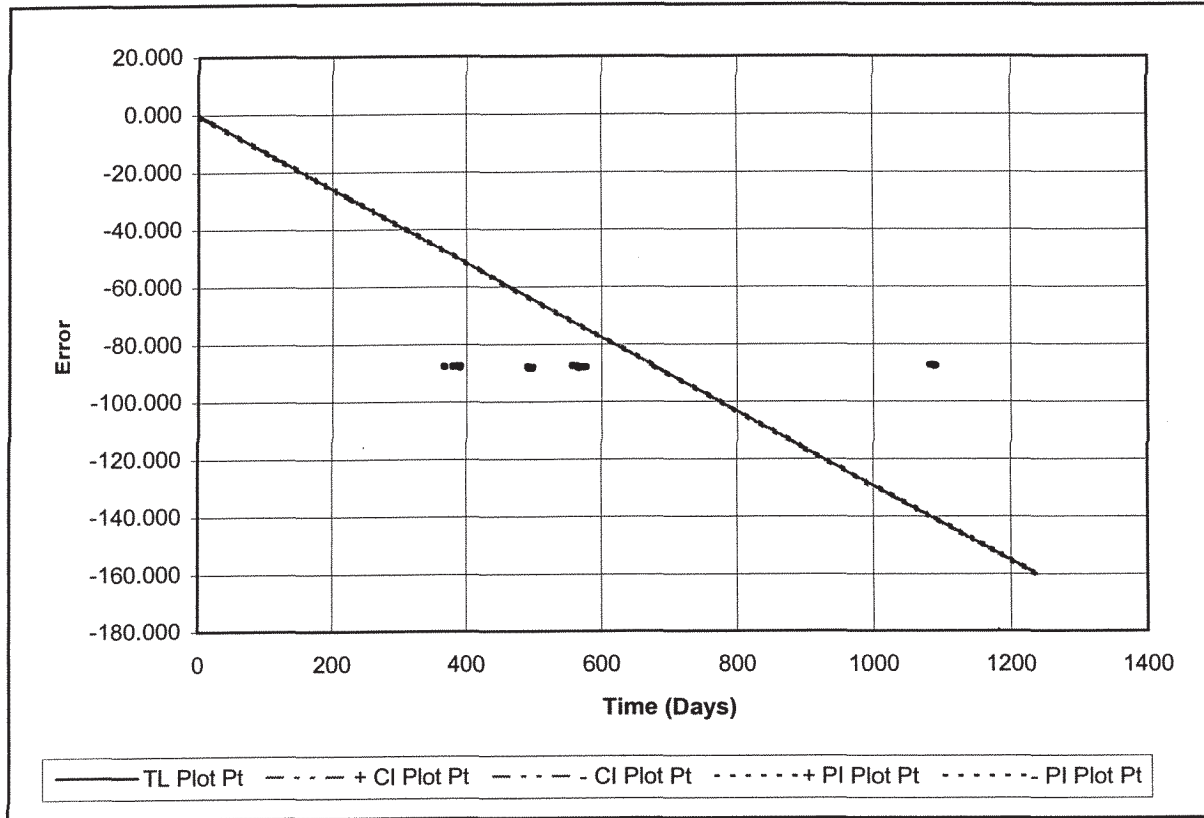
DIA-EE-93-W6-08

Revision 2

Two Sided

Interval Plot

Pt-2



Days	Trend Line	Confidence Interval			Prediction Interval		
	TL Plot Pt	+/- Value	+ CI Plot Pt	- CI Plot Pt	+/- Value	+ PI Plot Pt	- PI Plot Pt
0	0.0000	0.2040	0.2040	-0.2040	0.5782	0.5782	-0.5782
112.5	-14.5425	0.1708	-14.3717	-14.7132	0.5673	-13.9752	-15.1097
225	-29.0849	0.1392	-28.9457	-29.2241	0.5586	-28.5264	-29.6435
450	-58.1699	0.0886	-58.0812	-58.2585	0.5482	-57.6217	-58.7180
675	-87.2548	0.0841	-87.1707	-87.3389	0.5475	-86.7073	-87.8023
900	-116.3397	0.1305	-116.2092	-116.4702	0.5565	-115.7832	-116.8962
1125	-145.4246	0.1942	-145.2304	-145.6189	0.5748	-144.8499	-145.9994
1237.5	-159.9671	0.2283	-159.7388	-160.1954	0.5872	-159.3800	-160.5543

Number of Points = 48

t Value= 2.012894

Trendline Slope= -0.129266 %Span / Day

Trendline Intercept= 0 %Span

s= 0.268748 %Span

alpha= 0.05

Time Int. = 1

Start = 366

End = 1090

Attachment 6

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Revision 2

DA-EE-93-06-08

No. Calib.

Sets= 48

Test Calibration Points: 2

Function: ITE-27D

Calib. Set No.	TAG	MODEL	FUNCTION	A/L Date	A/F Date	Days	A/L Value	A/F Value	DELTA Vac	DELTA %Span
1	27D-14	ITE-27D	480VSB-UVL	3/16/94	3/25/91	-1087	93.200	93.980	0.780	0.6500
2	27D-14	ITE-27D	480VSB-UVL	3/16/94	3/25/91	-1087	93.900	0.000	-93.900	-78.2500
3	27D-14	ITE-27D	480VSB-UVL	3/25/91	4/9/95	1476	93.080	93.100	0.020	0.0167
4	27D-14	ITE-27D	480VSB-UVL	3/25/91	4/9/95	1476	95.270	93.800	-1.470	-1.2250
5	27D-14	ITE-27D	480VSB-UVL	4/9/95	4/10/96	367	93.200	93.200	0.000	0.0000
6	27D-14	ITE-27D	480VSB-UVL	4/9/95	4/10/96	367	93.800	93.800	0.000	0.0000
7	27D-14	ITE-27D	480VSB-UVL	4/10/96	10/28/97	566	93.200	93.300	0.100	0.0833
8	27D-14	ITE-27D	480VSB-UVL	4/10/96	10/28/97	566	93.800	93.900	0.100	0.0833
9	27D-14	ITE-27D	480VSB-UVL	10/28/97	3/3/99	491	93.200	93.100	-0.100	-0.0833
10	27D-14	ITE-27D	480VSB-UVL	10/28/97	3/3/99	491	93.700	93.600	-0.100	-0.0833
11	27D-14	ITE-27D	480VSB-UVL	3/3/99	9/26/00	573	93.200	93.200	0.000	0.0000
12	27D-14	ITE-27D	480VSB-UVL	3/3/99	9/26/00	573	93.700	93.700	0.000	0.0000
13	27D-14	ITE-27D	480VSB-UVL	3/25/91	3/16/94	1087	93.180	93.300	0.120	0.1000
14	27D-14	ITE-27D	480VSB-UVL	3/25/91	3/16/94	1087	94.660	93.600	-1.060	-0.8833
15	27D-14	ITE-27D	480VSB-UVL	3/16/94	4/9/95	389	93.200	93.100	-0.100	-0.0833
16	27D-14	ITE-27D	480VSB-UVL	3/16/94	4/9/95	389	93.800	93.700	-0.100	-0.0833
17	27D-14	ITE-27D	480VSB-UVL	4/9/95	4/10/96	367	93.200	93.200	0.000	0.0000
18	27D-14	ITE-27D	480VSB-UVL	4/9/95	4/10/96	367	93.700	93.700	0.000	0.0000
19	27D-14	ITE-27D	480VSB-UVL	4/10/96	10/28/97	566	93.200	93.400	0.200	0.1667
20	27D-14	ITE-27D	480VSB-UVL	4/10/96	10/28/97	566	93.700	93.800	0.100	0.0833
21	27D-14	ITE-27D	480VSB-UVL	10/28/97	3/4/99	492	93.200	93.100	-0.100	-0.0833
22	27D-14	ITE-27D	480VSB-UVL	10/28/97	3/4/99	492	93.700	93.500	-0.200	-0.1667
23	27D-14	ITE-27D	480VSB-UVL	3/4/99	9/26/00	572	93.300	93.300	0.000	0.0000
24	27D-14	ITE-27D	480VSB-UVL	3/4/99	9/26/00	572	93.700	93.800	0.100	0.0833
25	27D-16	ITE-27D-ABB-27N	480VSB-UVL	3/26/91	3/18/94	1088	93.000	93.000	0.000	0.0000
26	27D-16	ITE-27D-ABB-27N	480VSB-UVL	3/26/91	3/18/94	1088	95.250	93.600	-1.650	-1.3750
27	27D-16	ITE-27D-ABB-27N	480VSB-UVL	3/18/94	4/9/95	387	93.200	93.100	-0.100	-0.0833
28	27D-16	ITE-27D-ABB-27N	480VSB-UVL	3/18/94	4/9/95	387	93.900	93.800	-0.100	-0.0833
29	27D-16	ITE-27D-ABB-27N	480VSB-UVL	4/9/95	4/22/96	379	93.200	93.200	0.000	0.0000
30	27D-16	ITE-27D-ABB-27N	480VSB-UVL	4/9/95	4/22/96	379	93.800	93.900	0.100	0.0833
31	27D-16	ITE-27D-ABB-27N	480VSB-UVL	4/22/96	10/31/97	557	93.200	93.500	0.300	0.2500
32	27D-16	ITE-27D-ABB-27N	480VSB-UVL	4/22/96	10/31/97	557	93.900	94.000	0.100	0.0833
33	27D-16	ITE-27D-ABB-27N	480VSB-UVL	10/31/97	3/5/99	490	93.200	93.100	-0.100	-0.0833
34	27D-16	ITE-27D-ABB-27N	480VSB-UVL	10/31/97	3/5/99	490	93.700	93.700	0.000	0.0000
35	27D-16	ITE-27D-ABB-27N	480VSB-UVL	3/5/99	10/2/00	577	93.200	93.200	0.000	0.0000
36	27D-16	ITE-27D-ABB-27N	480VSB-UVL	3/5/99	10/2/00	577	93.700	93.700	0.000	0.0000
37	27D-B-16	ABB-27N	480VSB-UVL	3/26/91	3/18/94	1088	93.090	93.100	0.010	0.0083

Attachment 7

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Revision 2

DA-EE-93-006-08

Test Calibration Points: 2 Function: ITE-27D

Calib. Set No.	TAG	MODEL	FUNCTION	A/L Date	A/F Date	Days	A/L Value	A/F Value	DELTA Vac	DELTA %Span
20	27D-B-16	ABB-27N	480VSB-UVL	3/26/91	3/18/94	1088	95.500	93.600	-1.900	-1.5833
				3/18/94	4/9/95	387	93.300	93.200	-0.100	-0.0833
				3/18/94	4/9/95	387	93.800	93.800	0.000	0.0000
21	27D-B-16	ABB-27N	480VSB-UVL	4/9/95	4/22/96	379	93.200	93.100	-0.100	-0.0833
				4/9/95	4/22/96	379	93.800	93.900	0.100	0.0833
22	27D-B-16	ABB-27N	480VSB-UVL	4/22/96	11/1/97	558	93.200	93.300	0.100	0.0833
				4/22/96	11/1/97	558	93.900	94.100	0.200	0.1667
23	27D-B-16	ABB-27N	480VSB-UVL	11/1/97	3/6/99	490	93.200	93.000	-0.200	-0.1667
				11/1/97	3/6/99	490	93.700	93.500	-0.200	-0.1667
24	27D-B-16	ABB-27N	480VSB-UVL	3/6/99	10/2/00	576	93.300	93.400	0.100	0.0833
				3/6/99	10/2/00	576	93.700	93.800	0.100	0.0833
25	27D-17	ITE-27D	480VSB-UVL	3/29/91	3/22/94	1089	93.120	93.200	0.080	0.0667
				3/29/91	3/22/94	1089	95.590	93.800	-1.790	-1.4917
26	27D-17	ITE-27D	480VSB-UVL	3/22/94	4/10/95	384	93.200	93.100	-0.100	-0.0833
				3/22/94	4/10/95	384	93.800	93.700	-0.100	-0.0833
27	27D-17	ITE-27D	480VSB-UVL	4/10/95	4/23/95	13	93.200	93.300	0.100	0.0833
				4/10/95	4/23/95	13	93.700	93.800	0.100	0.0833
28	27D-17	ITE-27D	480VSB-UVL	4/23/95	11/1/97	923	93.200	93.200	0.000	0.0000
				4/23/95	11/1/97	923	93.700	93.800	0.100	0.0833
29	27D-17	ITE-27D	480VSB-UVL	11/1/97	3/8/99	492	93.200	93.200	0.000	0.0000
				11/1/97	3/8/99	492	93.800	93.800	0.000	0.0000
30	27D-17	ITE-27D	480VSB-UVL	3/8/99	9/30/00	572	93.200	93.100	-0.100	-0.0833
				3/8/99	9/30/00	572	93.800	93.700	-0.100	-0.0833
31	27D-B-17	ITE-27D	480VSB-UVL	3/29/91	3/23/94	1090	93.100	93.300	0.200	0.1667
				3/29/91	3/23/94	1090	95.210	93.700	-1.510	-1.2583
32	27D-B-17	ITE-27D	480VSB-UVL	3/23/94	4/10/95	383	93.300	93.000	-0.300	-0.2500
				3/23/94	4/10/95	383	93.700	93.500	-0.200	-0.1667
33	27D-B-17	ITE-27D	480VSB-UVL	4/10/95	4/24/96	380	93.300	93.500	0.200	0.1667
				4/10/95	4/24/96	380	93.800	93.900	0.100	0.0833
34	27D-B-17	ITE-27D	480VSB-UVL	4/24/96	11/2/97	557	93.200	93.400	0.200	0.1667
				4/24/96	11/2/97	557	93.700	93.900	0.200	0.1667
35	27D-B-17	ITE-27D	480VSB-UVL	11/2/97	3/8/99	491	93.200	93.000	-0.200	-0.1667
				11/2/97	3/8/99	491	93.700	93.600	-0.100	-0.0833
36	27D-B-17	ITE-27D	480VSB-UVL	3/8/99	9/30/00	572	93.200	93.200	0.000	0.0000
				3/8/99	9/30/00	572	93.700	93.800	0.100	0.0833
37	27D-18	ITE-27D	480VSB-UVL	3/31/91	3/16/94	1081	93.020	93.000	-0.020	-0.0167
				3/31/91	3/16/94	1081	95.460	93.700	-1.760	-1.4667
38	27D-18	ITE-27D	480VSB-UVL	3/16/94	4/10/95	390	93.300	93.200	-0.100	-0.0833
				3/16/94	4/10/95	390	93.700	93.600	-0.100	-0.0833

Test Calibration Points: 2 Function: ITE-27D

Calib. Set No.	TAG	MODEL	FUNCTION	A/L Date	A/F Date	Days	A/L Value	A/F Value	DELTA Vac	DELTA %Span
39	27D-18	ITE-27D	480VSB-UVL	4/10/95 4/10/95	4/11/96 4/11/96	367 367	93.300 93.700	93.400 93.800	0.100 0.100	0.0833 0.0833
40	27D-18	ITE-27D	480VSB-UVL	4/11/96 4/11/96	10/28/97 10/28/97	565 565	93.400 93.800	93.600 93.900	0.200 0.100	0.1667 0.0833
41	27D-18	ITE-27D	480VSB-UVL	10/28/97 10/28/97	3/9/99 3/9/99	497 497	93.200 93.700	93.100 93.500	-0.100 -0.200	-0.0833 -0.1667
42	27D-18	ITE-27D	480VSB-UVL	3/9/99 3/9/99	9/26/00 9/26/00	567 567	93.200 93.700	93.400 93.800	0.200 0.100	0.1667 0.0833
43	27D-B-18	ITE-27D	480VSB-UVL	3/31/91 3/31/91	3/17/94 3/17/94	1082 1082	93.080 94.790	92.900 93.500	-0.180 -1.290	-0.1500 -1.0750
44	27D-B-18	ITE-27D	480VSB-UVL	3/17/94 3/17/94	4/11/95 4/11/95	390 390	93.300 93.800	93.200 93.700	-0.100 -0.100	-0.0833 -0.0833
45	27D-B-18	ITE-27D	480VSB-UVL	4/11/95 4/11/95	4/12/96 4/12/96	367 367	93.200 93.700	93.300 93.800	0.100 0.100	0.0833 0.0833
46	27D-B-18	ITE-27D	480VSB-UVL	4/12/96 4/12/96	10/28/97 10/28/97	564 564	93.300 93.800	93.600 93.900	0.300 0.100	0.2500 0.0833
47	27D-B-18	ITE-27D	480VSB-UVL	10/28/97 10/28/97	3/9/99 3/9/99	497 497	93.300 93.700	93.200 93.600	-0.100 -0.100	-0.0833 -0.0833
48	27D-B-18	ITE-27D	480VSB-UVL	3/9/99 3/9/99	9/26/00 9/26/00	567 567	93.300 93.700	93.400 93.800	0.100 0.100	0.0833 0.0833

Attachment 7
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Revision 2

Normality Test Results Summary

Function= ITE-27D

Time Interval = 1

Two-Sided

Setpoint:	Trip	Reset
Test Type=	W Test	W Test
Number Points=	47	47
Normal=	YES	NO
W=	0.9515	0.7673
p=	0.9460	0.9460
X(min)=	-0.2586	-0.9612
X(max)=	0.2375	0.6111
P=	0.05	0.05

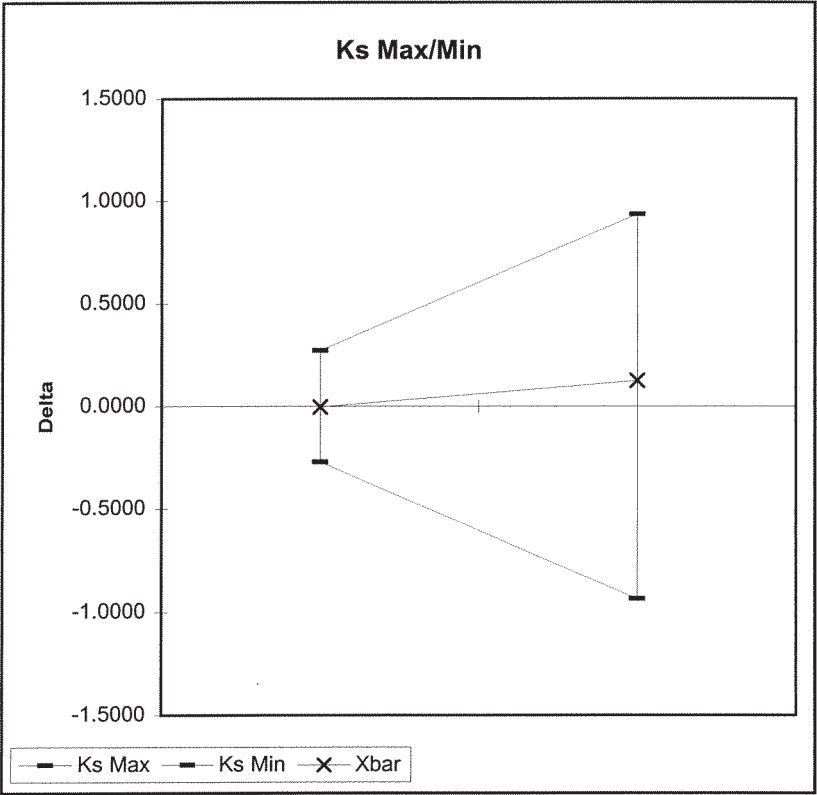
Ks Results Summary

Function= ITE-27D

Time Interval = 1

	Two-Sided	
Setpoint:	Trip	Reset
Conf. Level =	0.95	0.95
Probability =	0.95	0.95
s=	0.1131	0.3900
K=	2.3964	2.3964
Ks(max) =	0.2710	0.9346
Ks(min) =	-0.2710	-0.9346
xbar =	-0.0038	0.1247
Ks(max)+xbar=	0.2672	1.0593
Ks(min)+xbar=	-0.2748	-0.8099
Drit Rate(per year)=	0.0082	-0.2087
y intercept=	0.0000	0.0000

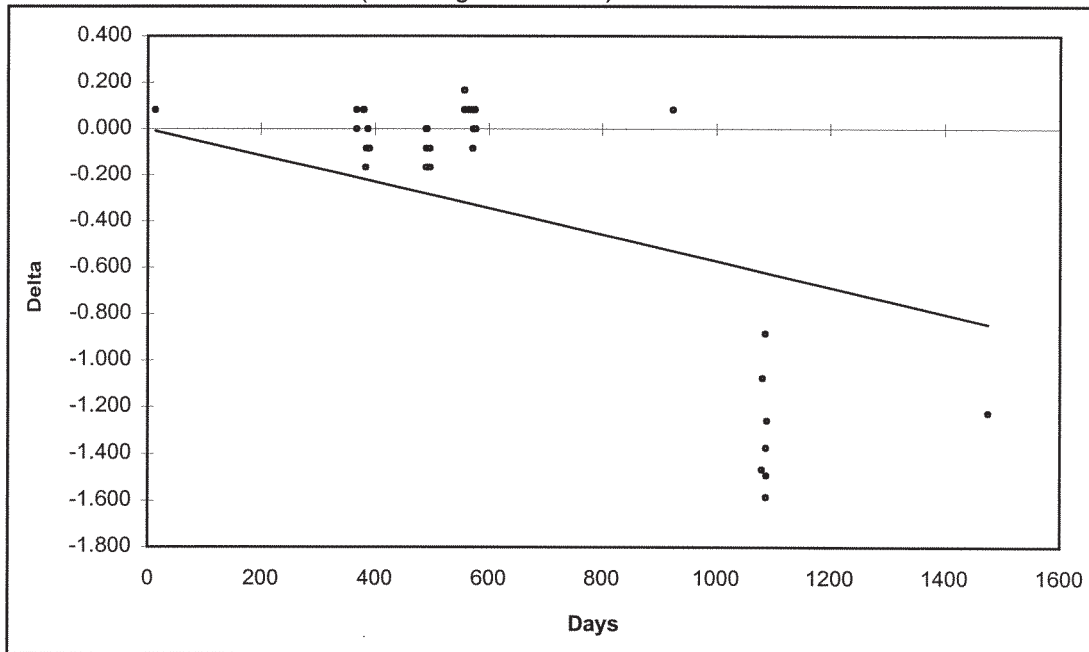
Function= ITE-27D
Two-Sided



This application is
Create

Pt-2

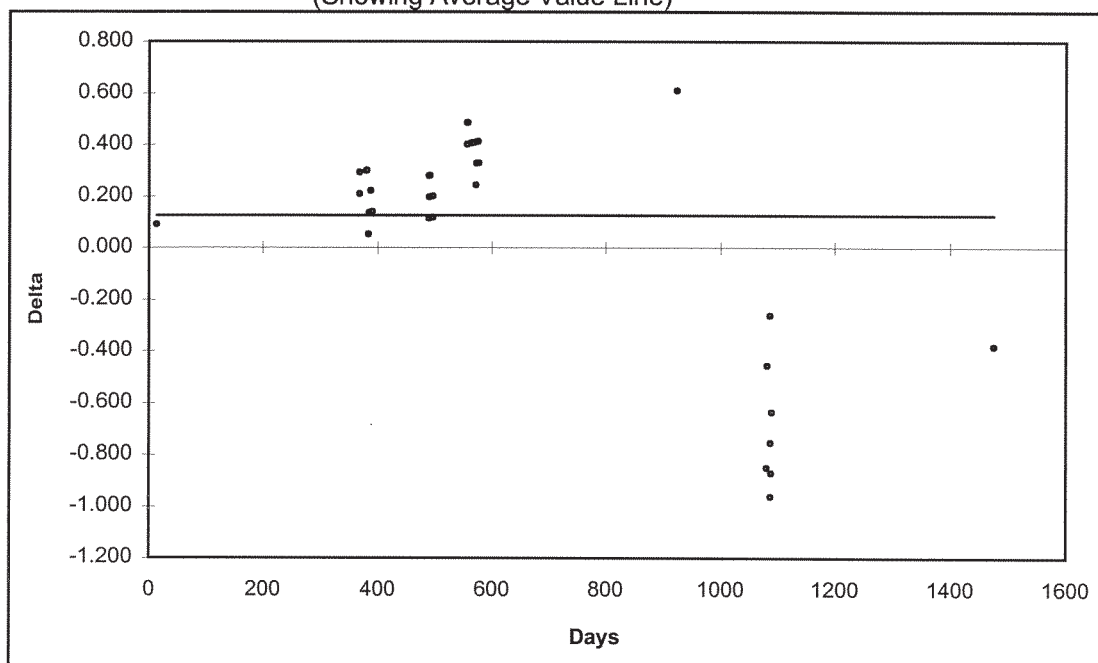
Function:ITE-27D
Scatter Plot: Raw Data
(Showing Trend Line)



$y = -0.000572x + 0$
 $r^2 = 0.368839$
Drift Rate = -0.208705 % Per Year

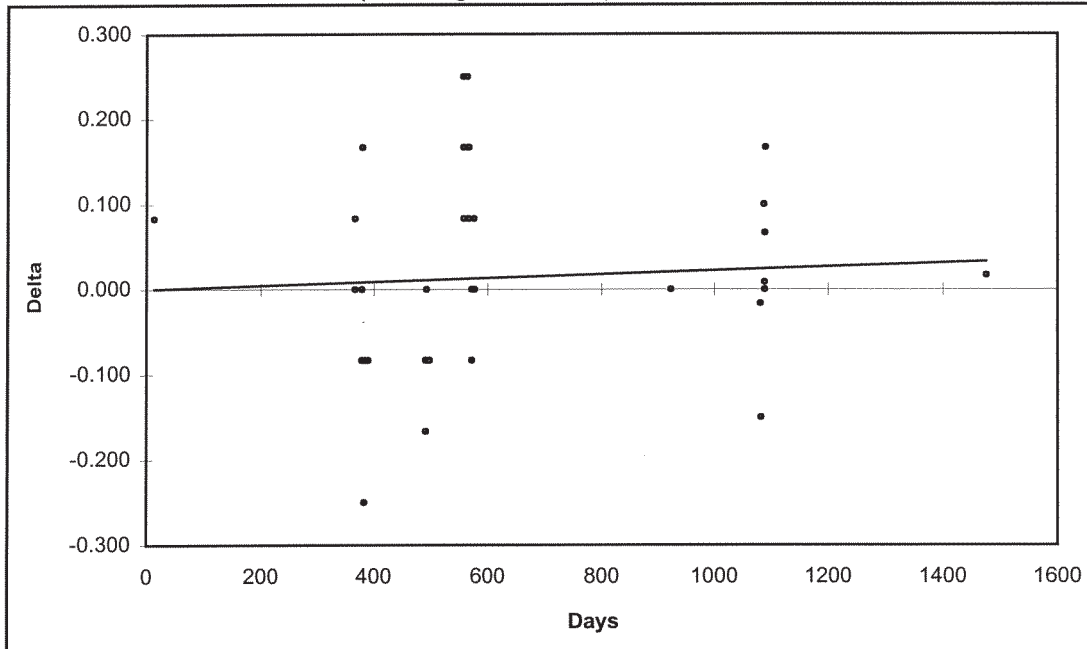
Time Interval = 1
Start = -1087
End = 1476

Scatter Plot: Analysis Data
(Showing Average Value Line)



This application is
Create

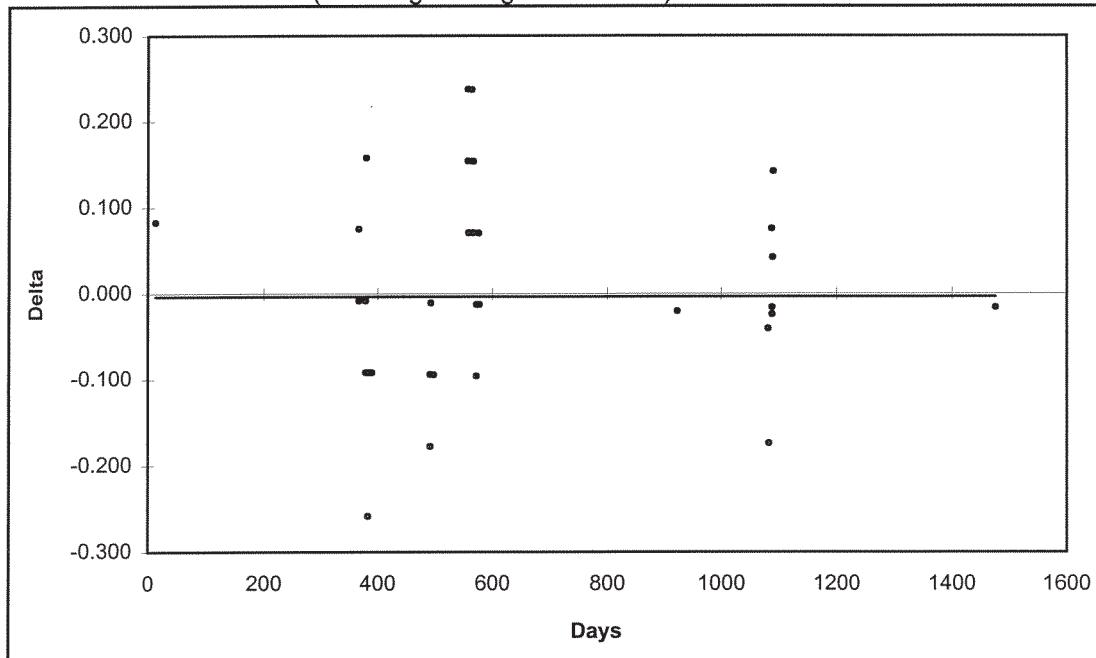
Pt-1
Function:ITE-27D
Scatter Plot: Raw Data
(Showing Trend Line)

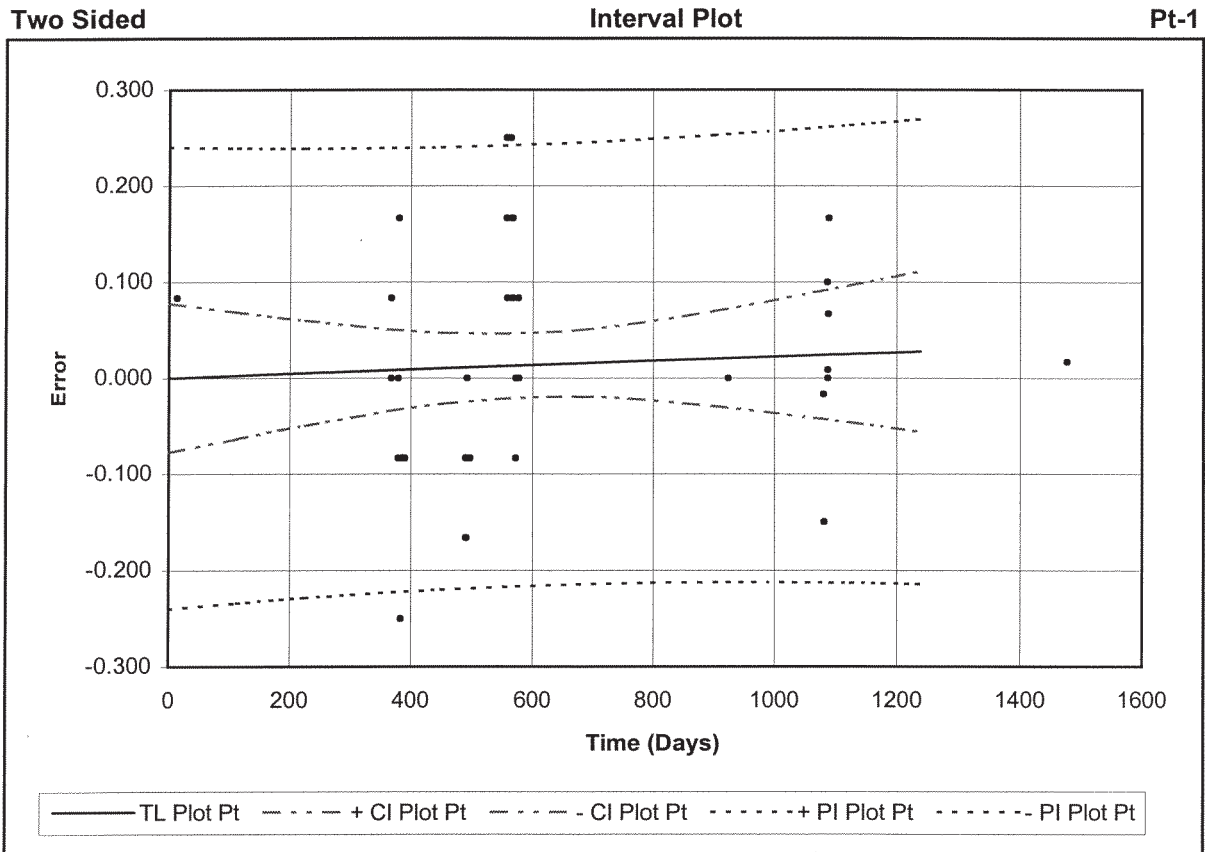


$y = 2.24E-05 x + 0$
 $r^2 = 0.010111$
Drift Rate = 0.00816 % Per Year

Time Interval = 1
Start = -1087
End = 1476

Scatter Plot: Analysis Data
(Showing Average Value Line)





Days	Trend Line	Confidence Interval			Prediction Interval		
	TL Plot Pt	+/- Value	+ CI Plot Pt	- CI Plot Pt	+/- Value	+ PI Plot Pt	- PI Plot Pt
0	0.0000	0.0776	0.0776	-0.0776	0.2401	0.2401	-0.2401
112.5	0.0025	0.0658	0.0683	-0.0633	0.2365	0.2390	-0.2340
225	0.0050	0.0547	0.0597	-0.0496	0.2336	0.2387	-0.2286
450	0.0101	0.0371	0.0472	-0.0271	0.2302	0.2402	-0.2201
675	0.0151	0.0346	0.0497	-0.0195	0.2298	0.2449	-0.2147
900	0.0201	0.0494	0.0696	-0.0293	0.2325	0.2526	-0.2124
1125	0.0251	0.0715	0.0967	-0.0464	0.2382	0.2633	-0.2130
1237.5	0.0277	0.0836	0.1113	-0.0559	0.2421	0.2697	-0.2144

Number of Points = 47

t Value= 2.014103

Trendline Slope= 2.24E-05 %Span / Day

Trendline Intercept= 0 %Span

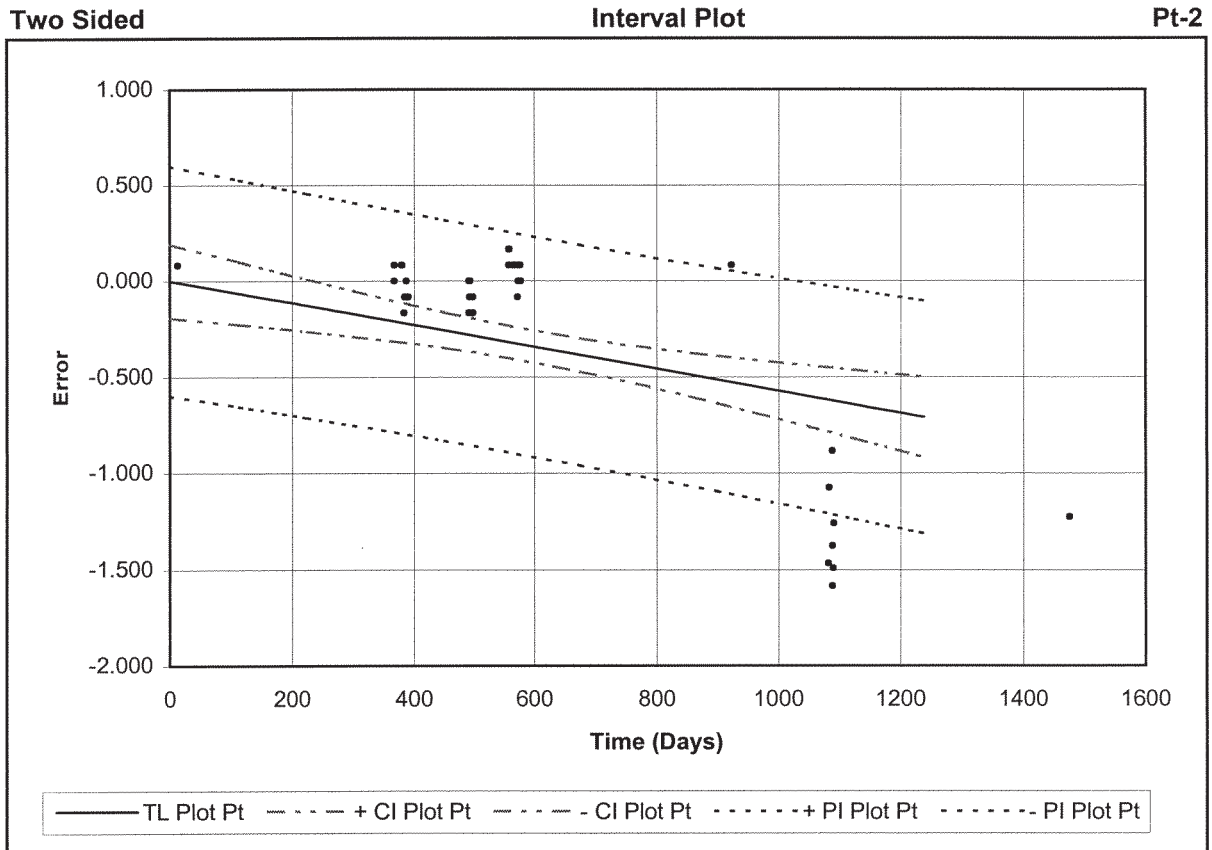
s= 0.112782 %Span

alpha= 0.05

Time Int. = 1

Start = -1087

End = 1476



Days	Trend Line	Confidence Interval			Prediction Interval		
	TL Plot Pt	+/- Value	+ CI Plot Pt	- CI Plot Pt	+/- Value	+ PI Plot Pt	- PI Plot Pt
0	0.0000	0.1937	0.1937	-0.1937	0.5990	0.5990	-0.5990
112.5	-0.0643	0.1642	0.0999	-0.2285	0.5902	0.5258	-0.6545
225	-0.1287	0.1364	0.0078	-0.2651	0.5830	0.4544	-0.7117
450	-0.2573	0.0927	-0.1646	-0.3500	0.5744	0.3171	-0.8317
675	-0.3860	0.0863	-0.2996	-0.4723	0.5734	0.1874	-0.9594
900	-0.5146	0.1234	-0.3913	-0.6380	0.5801	0.0655	-1.0947
1125	-0.6433	0.1785	-0.4647	-0.8218	0.5943	-0.0490	-1.2376
1237.5	-0.7076	0.2087	-0.4989	-0.9162	0.6040	-0.1036	-1.3116

Number of Points = 47
 t Value= 2.014103
 Trendline Slope= -0.000572 %Span / Day
 Trendline Intercept= 0 %Span
 s= 0.281447 %Span
 alpha= 0.05

Time Int. = 1
 Start = -1087
 End = 1476

Attachment 7
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Revision 2

Function: ITE-27D

Bin	Freq	Exp Freq
-1.7627	1	0.2914
-1.5044	4	0.7802
-1.2462	2	2.0727
-0.9880	1	4.3193
-0.7298	0	7.0453
-0.4715	0	9.0005
-0.2133	20	9.0005
0.0449	19	7.0453
0.3032	0	4.3193
0.5614	0	2.0727
0.8196	0	0.7802
1.0778	0	0.2914
1.3361		
> ± 3 s	0	

Mean= -0.2133

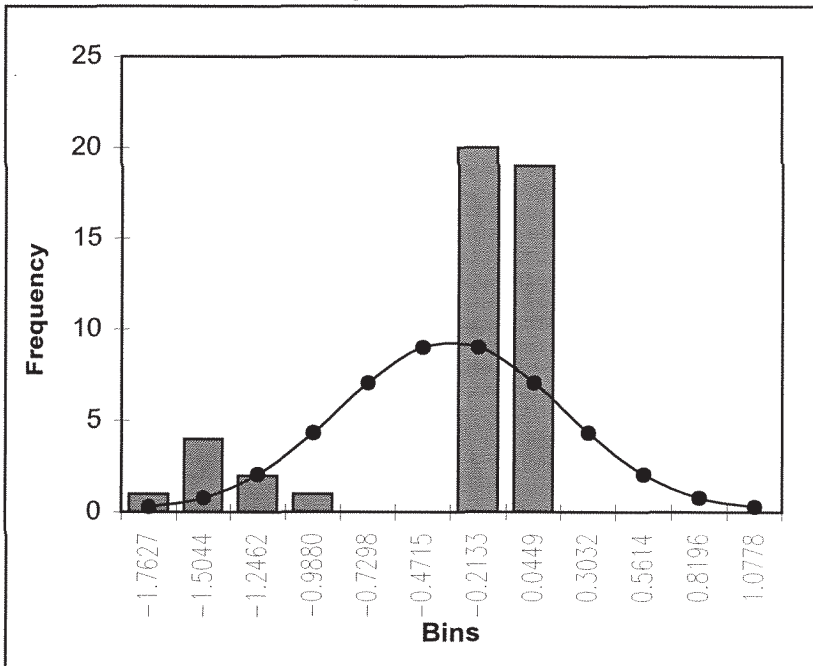
Bin Size= 0.2582

s= 0.5165

Pt-2

Histogram

Raw Data



Time Int. = 1

Start = -1087

End = 1476

Pt-2

Histogram

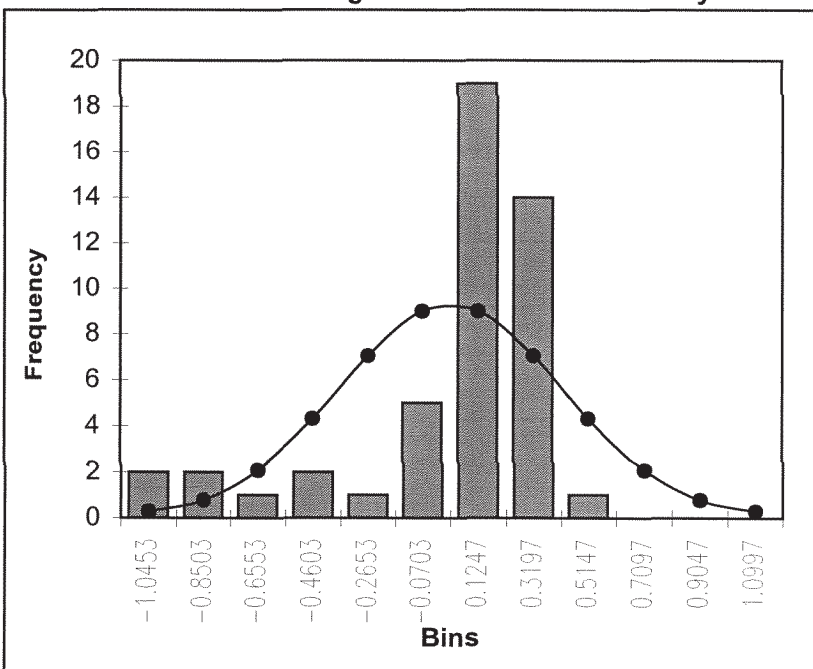
Analysis Data

Bin	Freq	Exp Freq
-1.0453	2	0.2914
-0.8503	2	0.7802
-0.6553	1	2.0727
-0.4603	2	4.3193
-0.2653	1	7.0453
-0.0703	5	9.0005
0.1247	19	9.0005
0.3197	14	7.0453
0.5147	1	4.3193
0.7097	0	2.0727
0.9047	0	0.7802
1.0997	0	0.2914
1.2947		
> ± 3 s	0	

Mean= 0.1247

Bin Size= 0.1950

s= 0.3900



Function: ITE-27D

Bin	Freq	Exp Freq
-0.3318	0	0.2914
-0.2749	1	0.7802
-0.2181	2	2.0727
-0.1612	1	4.3193
-0.1043	13	7.0453
-0.0475	12	9.0005
0.0094	1	9.0005
0.0663	9	7.0453
0.1231	6	4.3193
0.1800	0	2.0727
0.2369	2	0.7802
0.2937	0	0.2914
0.3506		
> ± 3 s	0	

Mean= 0.0094

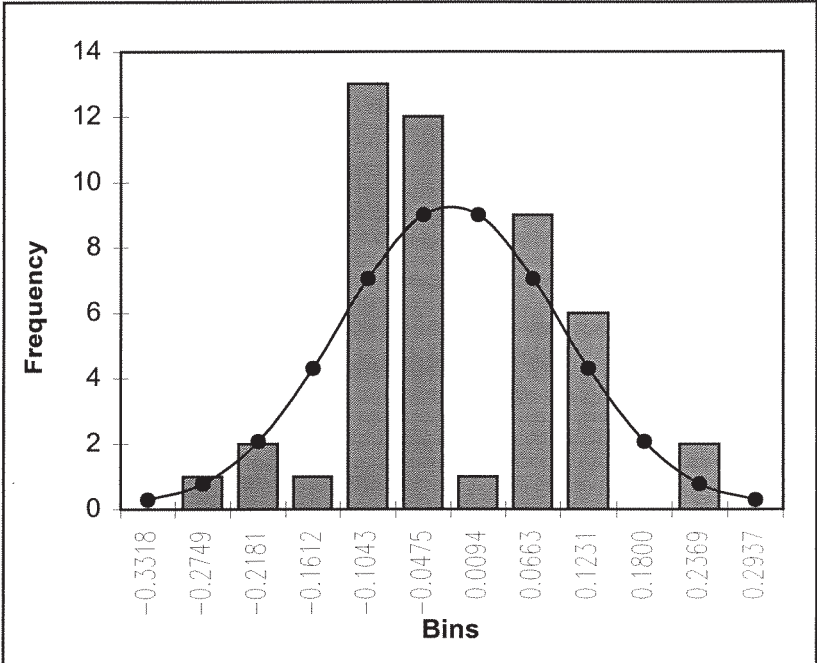
Bin Size= 0.0569

s= 0.1137

Pt-1

Histogram

Raw Data



Time Int. = 1

Start = -1087

End = 1476

Bin	Freq	Exp Freq
-0.3431	0	0.2914
-0.2865	1	0.7802
-0.2300	3	2.0727
-0.1734	0	4.3193
-0.1169	13	7.0453
-0.0604	13	9.0005
-0.0038	1	9.0005
0.0527	8	7.0453
0.1093	6	4.3193
0.1658	0	2.0727
0.2224	2	0.7802
0.2789	0	0.2914
0.3354		
> ± 3 s	0	

Mean= -0.0038

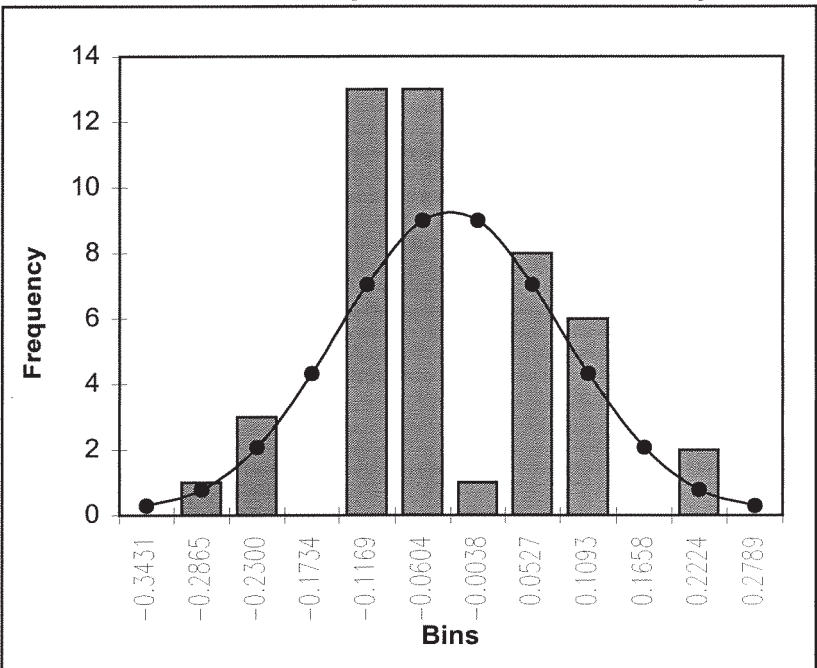
Bin Size= 0.0565

s= 0.1131

Pt-1

Histogram

Analysis Data



No. Calib.
Sets= 40

Test Calibration Points: 2 **Function: ABB-27N-t**

Calib. Set No.	TAG	MODEL	FUNCTION	A/L Date	A/F Date	Days	A/L Value	A/F Value	DELTA sec	DELTA %Span
1	27D-14	ABB-27N	480V-UVL-time	3/16/94 3/16/94	4/9/95 4/9/95	389 389	2.400 0.000	2.400 0.000	0.000 0.000	0.0000 0.0000
2	27D-14	ABB-27N	480V-UVL-time	4/9/95 4/9/95	4/10/96 4/10/96	367 367	2.400 0.000	2.400 0.000	0.000 0.000	0.0000 0.0000
3	27D-14	ABB-27N	480V-UVL-time	4/10/96 4/10/96	10/28/97 10/28/97	566 566	2.400 0.000	2.400 0.000	0.000 0.000	0.0000 0.0000
4	27D-14	ABB-27N	480V-UVL-time	4/10/96 10/28/97	10/28/97 3/3/99	566 491	0.000 0.000	0.000 0.000	0.000 0.000	0.0000 0.0000
5	27D-14	ABB-27N	480V-UVL-time	3/3/99 3/3/99	9/26/00 9/26/00	573 573	2.430 0.000	2.420 0.000	-0.010 0.000	-0.0167 0.0000
6	27D-B-14	ABB-27N	480V-UVL-time	3/16/94 3/16/94	4/9/95 4/9/95	389 389	2.430 0.000	2.430 0.000	0.000 0.000	0.0000 0.0000
7	27D-B-14	ABB-27N	480V-UVL-time	4/9/95 4/9/95	4/10/96 4/10/96	367 367	2.430 0.000	2.440 0.000	0.010 0.000	0.0167 0.0000
8	27D-B-14	ABB-27N	480V-UVL-time	4/10/96 4/10/96	10/28/97 10/28/97	566 566	2.440 0.000	2.440 0.000	0.000 0.000	0.0000 0.0000
9	27D-B-14	ABB-27N	480V-UVL-time	10/28/97 10/28/97	3/4/99 3/4/99	492 492	2.450 0.000	2.460 0.000	0.010 0.000	0.0167 0.0000
10	27D-B-14	ABB-27N	480V-UVL-time	3/4/99 3/4/99	9/26/00 9/26/00	572 572	2.460 0.000	2.440 0.000	-0.020 0.000	-0.0333 0.0000
11	27D-16	ABB-27N	480V-UVL-time	3/18/94 3/18/94	4/9/95 4/9/95	387 387	2.470 0.000	2.470 0.000	0.000 0.000	0.0000 0.0000
12	27D-16	ABB-27N	480V-UVL-time	4/9/95 4/9/95	4/22/96 4/22/96	379 379	2.470 0.000	2.470 0.000	0.000 0.000	0.0000 0.0000
13	27D-16	ABB-27N	480V-UVL-time	4/22/96 4/22/96	10/31/97 10/31/97	557 557	2.470 0.000	2.470 0.000	0.000 0.000	0.0000 0.0000
14	27D-16	ABB-27N	480V-UVL-time	10/31/97 10/31/97	3/5/99 3/5/99	490 490	2.400 0.000	2.410 0.000	0.010 0.000	0.0167 0.0000
15	27D-16	ABB-27N	480V-UVL-time	3/5/99 3/5/99	10/2/00 10/2/00	577 577	2.410 0.000	2.410 0.000	0.000 0.000	0.0000 0.0000
16	27D-B-16	ABB-27N	480V-UVL-time	3/18/94 3/18/94	4/9/95 4/9/95	387 387	2.430 0.000	2.430 0.000	0.000 0.000	0.0000 0.0000
17	27D-B-16	ABB-27N	480V-UVL-time	4/9/95 4/9/95	4/22/96 4/22/96	379 379	2.430 0.000	2.430 0.000	0.000 0.000	0.0000 0.0000
18	27D-B-16	ABB-27N	480V-UVL-time	4/22/96 4/22/96	11/1/97 11/1/97	558 558	2.430 0.000	2.430 0.000	0.000 0.000	0.0000 0.0000
19	27D-B-16	ABB-27N	480V-UVL-time	11/1/97 11/1/97	3/6/99 3/6/99	490 490	2.400 0.000	2.410 0.000	0.010 0.000	0.0167 0.0000

Test Calibration Points: 2 Function: ABB-27N-t

Calib. Set No.	TAG	MODEL	FUNCTION	A/L Date	A/F Date	Days	A/L Value	A/F Value	DELTA sec	DELTA %Span
20	27D-B-16	ABB-27N	480V-UVL-time	11/1/97	3/6/99	490	0.000	0.000	0.000	0.0000
				3/6/99	10/2/00	576	2.400	2.400	0.000	0.0000
				3/6/99	10/2/00	576	0.000	0.000	0.000	0.0000
21	27D-17	ABB-27N	480V-UVL-time	3/22/94	4/10/95	384	2.470	2.470	0.000	0.0000
				3/22/94	4/10/95	384	0.000	0.000	0.000	0.0000
22	27D-17	ABB-27N	480V-UVL-time	4/10/95	4/23/95	13	2.470	2.480	0.010	0.0167
				4/10/95	4/23/95	13	0.000	0.000	0.000	0.0000
23	27D-17	ABB-27N	480V-UVL-time	4/23/95	11/1/97	923	2.480	2.470	-0.010	-0.0167
				4/23/95	11/1/97	923	0.000	0.000	0.000	0.0000
24	27D-17	ABB-27N	480V-UVL-time	11/1/97	3/8/99	492	2.470	2.500	0.030	0.0500
				11/1/97	3/8/99	492	0.000	0.000	0.000	0.0000
25	27D-17	ABB-27N	480V-UVL-time	3/8/99	9/30/00	572	2.500	2.500	0.000	0.0000
				3/8/99	9/30/00	572	0.000	0.000	0.000	0.0000
26	27D-B-17	ABB-27N	480V-UVL-time	3/23/94	4/10/95	383	2.420	2.420	0.000	0.0000
				3/23/94	4/10/95	383	0.000	0.000	0.000	0.0000
27	27D-B-17	ABB-27N	480V-UVL-time	4/10/95	4/24/96	380	2.420	2.420	0.000	0.0000
				4/10/95	4/24/96	380	0.000	0.000	0.000	0.0000
28	27D-B-17	ABB-27N	480V-UVL-time	4/24/96	11/2/97	557	2.420	2.420	0.000	0.0000
				4/24/96	11/2/97	557	0.000	0.000	0.000	0.0000
29	27D-B-17	ABB-27N	480V-UVL-time	11/2/97	3/8/99	491	2.420	2.450	0.030	0.0500
				11/2/97	3/8/99	491	0.000	0.000	0.000	0.0000
30	27D-B-17	ABB-27N	480V-UVL-time	3/8/99	9/30/00	572	2.450	2.440	-0.010	-0.0167
				3/8/99	9/30/00	572	0.000	0.000	0.000	0.0000
31	27D-18	ABB-27N	480V-UVL-time	3/16/94	4/10/95	390	2.430	2.420	-0.010	-0.0167
				3/16/94	4/10/95	390	0.000	0.000	0.000	0.0000
32	27D-18	ABB-27N	480V-UVL-time	4/10/95	4/11/96	367	2.420	2.430	0.010	0.0167
				4/10/95	4/11/96	367	0.000	0.000	0.000	0.0000
33	27D-18	ABB-27N	480V-UVL-time	4/11/96	10/28/97	565	2.430	2.420	-0.010	-0.0167
				4/11/96	10/28/97	565	0.000	0.000	0.000	0.0000
34	27D-18	ABB-27N	480V-UVL-time	10/28/97	3/9/99	497	2.420	2.450	0.030	0.0500
				10/28/97	3/9/99	497	0.000	0.000	0.000	0.0000
35	27D-18	ABB-27N	480V-UVL-time	3/9/99	9/26/00	567	2.450	2.430	-0.020	-0.0333
				3/9/99	9/26/00	567	0.000	0.000	0.000	0.0000
36	27D-B-18	ABB-27N	480V-UVL-time	3/17/94	4/11/95	390	2.380	2.370	-0.010	-0.0167
				3/17/94	4/11/95	390	0.000	0.000	0.000	0.0000
37	27D-B-18	ABB-27N	480V-UVL-time	4/11/95	4/12/96	367	2.370	2.380	0.010	0.0167
				4/11/95	4/12/96	367	0.000	0.000	0.000	0.0000
38	27D-B-18	ABB-27N	480V-UVL-time	4/12/96	10/28/97	564	2.380	2.380	0.000	0.0000
				4/12/96	10/28/97	564	0.000	0.000	0.000	0.0000

Attachment 8
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Revison 2

Test Calibration Points: 2 Function: ABB-27N-t

Calib. Set No.	TAG	MODEL	FUNCTION	A/L Date	A/F Date	Days	A/L Value	A/F Value	DELTA sec	DELTA %Span
39	27D-B-18	ABB-27N	480V-UVL-time	10/28/97	3/9/99	497	2.380	2.410	0.030	0.0500
				10/28/97	3/9/99	497	0.000	0.000	0.000	0.0000
40	27D-B-18	ABB-27N	480V-UVL-time	3/9/99	9/26/00	567	2.410	2.390	-0.020	-0.0333
				3/9/99	9/26/00	567	0.000	0.000	0.000	0.0000

Function: ABB-27N-t

Bin	Freq	Exp Freq
-0.0598	0	0.2480
-0.0493	0	0.6640
-0.0389	3	1.7640
-0.0284	0	3.6760
-0.0180	6	5.9960
-0.0075	20	7.6600
0.0029	0	7.6600
0.0134	7	5.9960
0.0238	0	3.6760
0.0343	0	1.7640
0.0447	4	0.6640
0.0552	0	0.2480
> $\pm 3 s$	0	

Mean= 0.0029

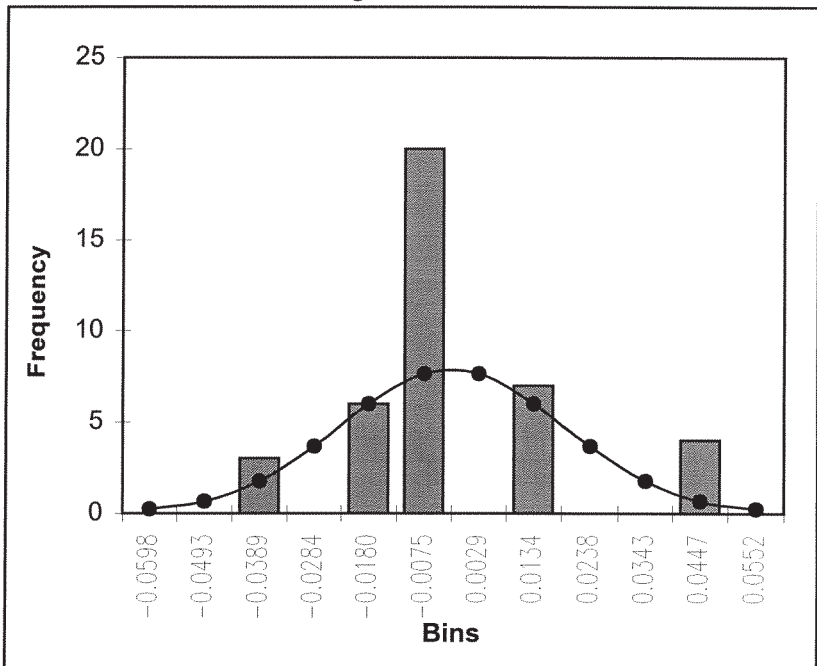
Bin Size= 0.0105

s= 0.0209

Pt-1

Histogram

Raw Data



Time Int. = 1

Start = 13

End = 923

Bin	Freq	Exp Freq
-0.0615	0	0.2480
-0.0510	0	0.6640
-0.0405	3	1.7640
-0.0300	0	3.6760
-0.0195	6	5.9960
-0.0090	20	7.6600
0.0015	0	7.6600
0.0120	7	5.9960
0.0225	0	3.6760
0.0331	0	1.7640
0.0436	4	0.6640
0.0541	0	0.2480
0.0646		
> $\pm 3 s$	0	

Mean= 0.0015

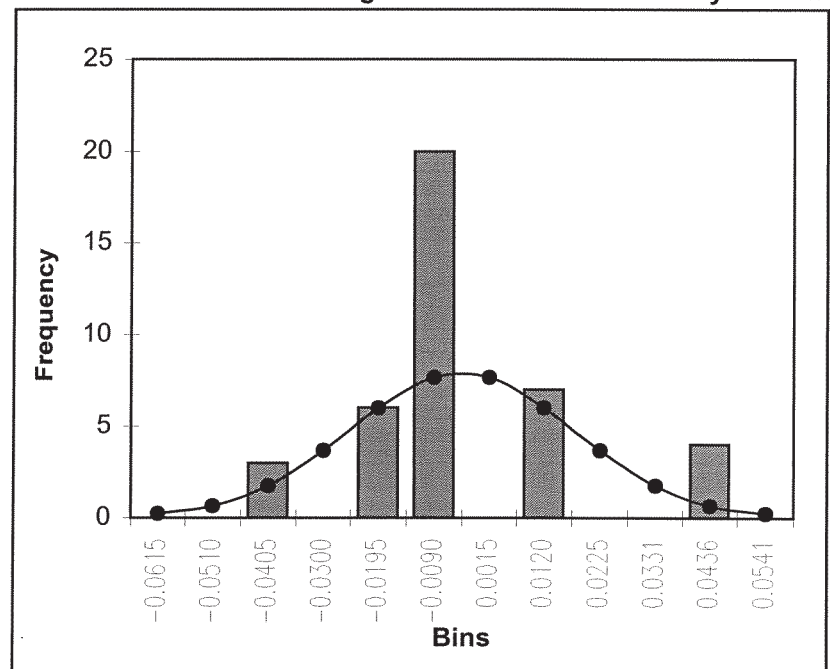
Bin Size= 0.0105

s= 0.0210

Pt-1

Histogram

Analysis Data



Function: ABB-27N-t

Bin	Freq	Exp Freq
0.0000	0	0.2480
0.0000	0	0.6640
0.0000	0	1.7640
0.0000	0	3.6760
0.0000	0	5.9960
0.0000	0	7.6600
0.0000	40	7.6600
0.0000	0	5.9960
0.0000	0	3.6760
0.0000	0	1.7640
0.0000	0	0.6640
0.0000	0	0.2480
0.0000		
> $\pm 3 s$	0	

Mean= 0.0000

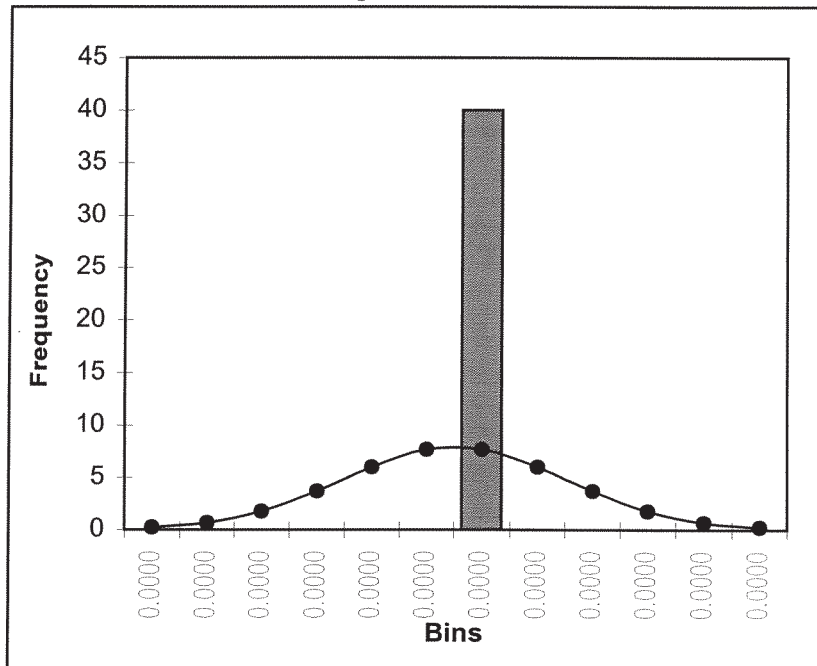
Bin Size= 0.0000

s= 0.0000

Pt-2

Histogram

Raw Data



Time Int. = 1

Start = 13

End = 923

Bin	Freq	Exp Freq
0.0000	0	0.2480
0.0000	0	0.6640
0.0000	0	1.7640
0.0000	0	3.6760
0.0000	0	5.9960
0.0000	0	7.6600
0.0000	40	7.6600
0.0000	0	5.9960
0.0000	0	3.6760
0.0000	0	1.7640
0.0000	0	0.6640
0.0000	0	0.2480
0.0000		
> $\pm 3 s$	0	

Mean= 0.0000

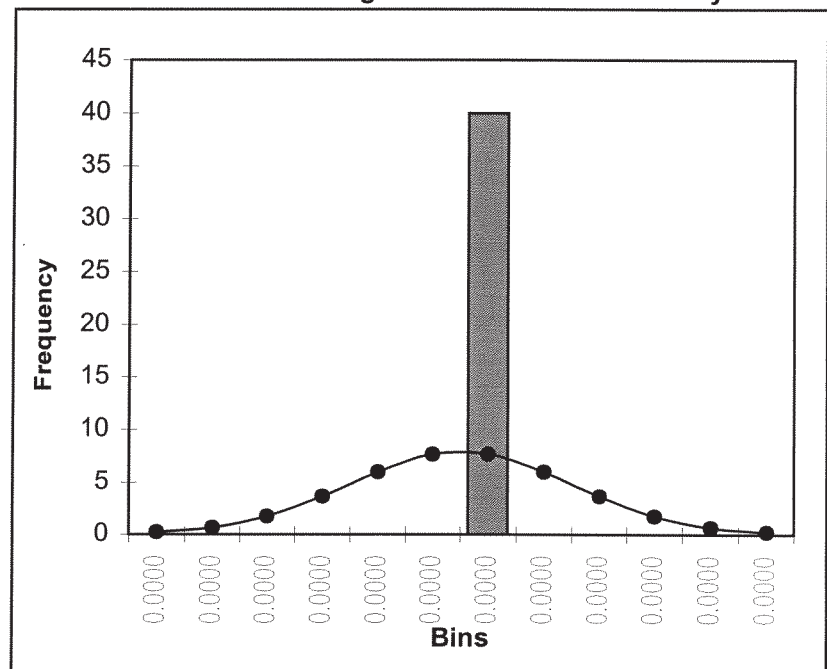
Bin Size= 0.0000

s= 0.0000

Pt-2

Histogram

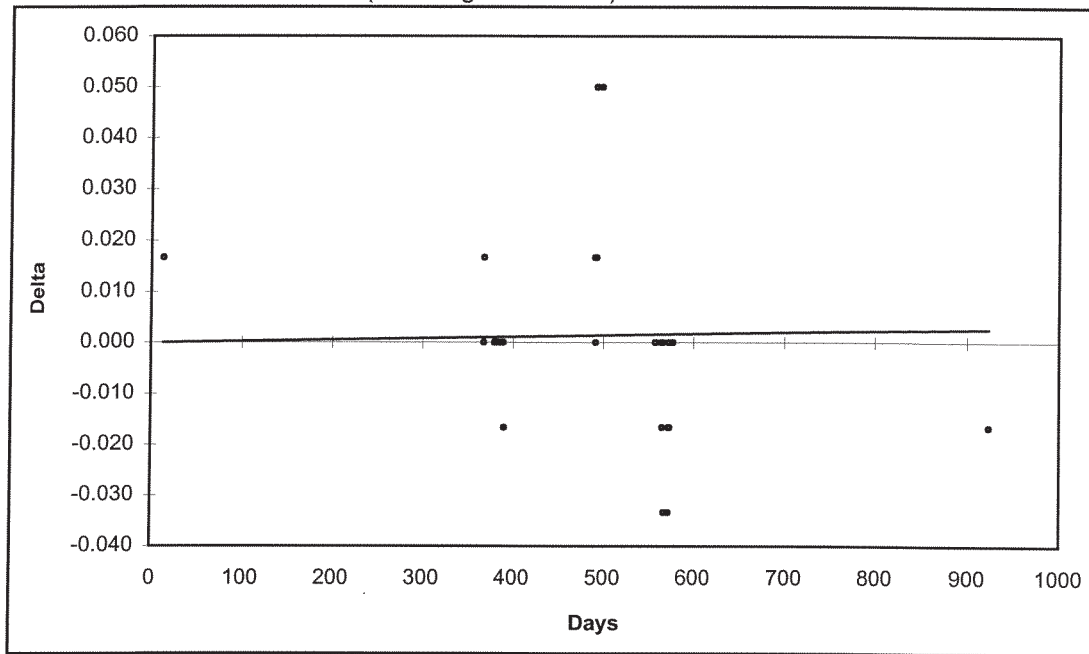
Analysis Data



This application is
Create

Pt-1

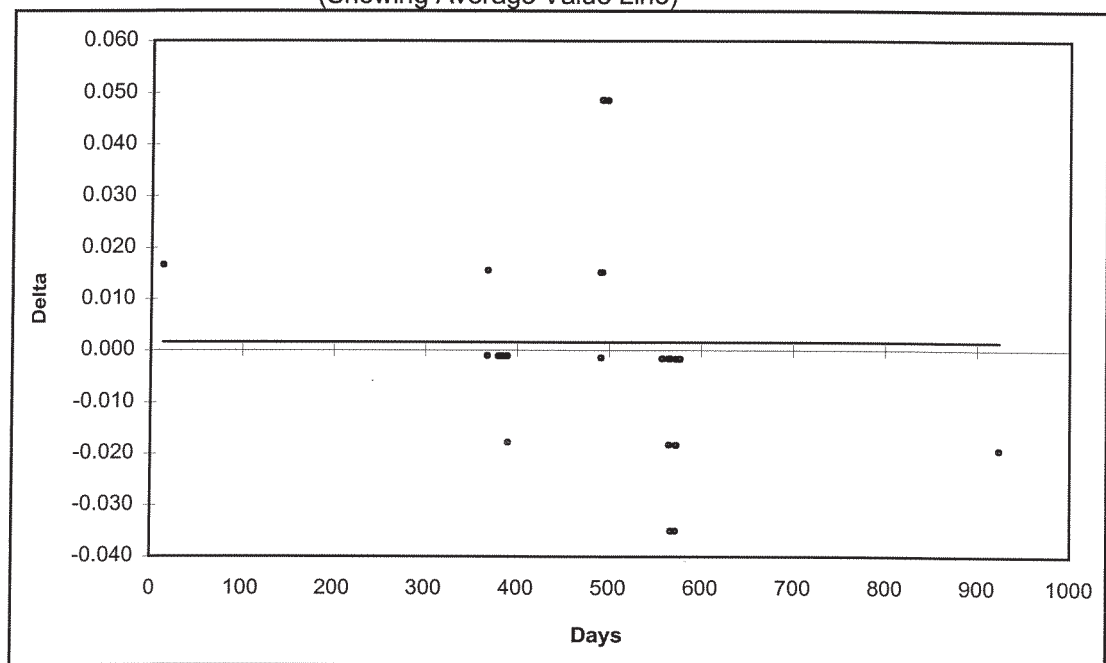
Function:ABB-27N-t
Scatter Plot: Raw Data
(Showing Trend Line)



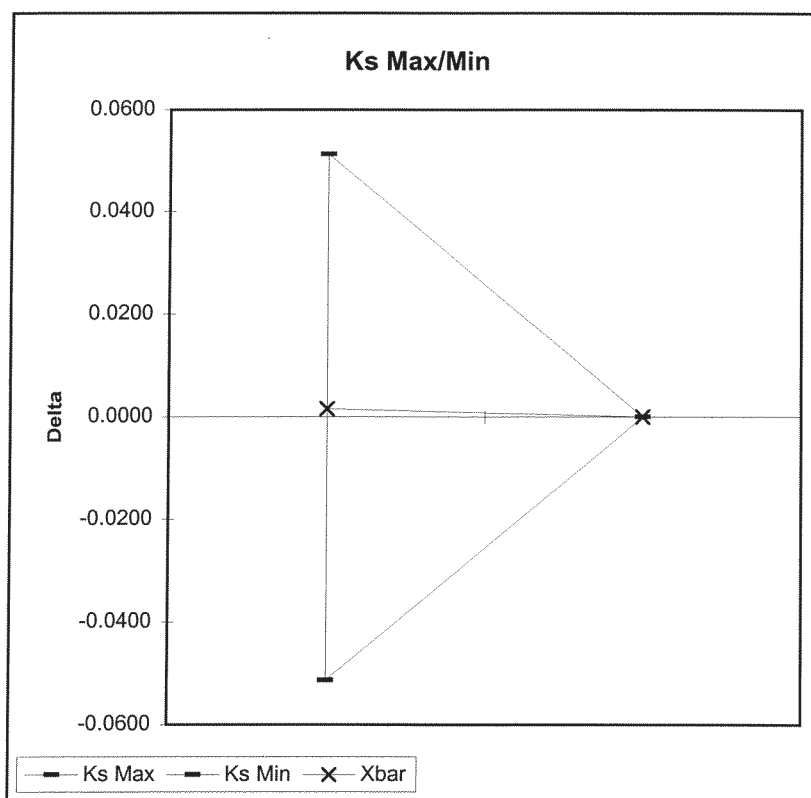
y=	2.88E-06 x	+ 0
r ² =	-0.015602	
Drift Rate=	0.001051 % Per Year	

Time Interval = 1
Start = 13
End = 923

Scatter Plot: Analysis Data
(Showing Average Value Line)



Function= ABB-27N-t

Two-Sided

Ks Results SummaryFunction= **ABB-27N-t**

Time Interval = 1

Two-Sided

Setpoint:	Trip	Reset
Conf. Level =	0.95	0.95
Probability =	0.95	0.95
s=	0.0210	0.0000
K=	2.445	2.445
Ks(max) =	0.0514	0.0000
Ks(min) =	-0.0514	0.0000
xbar =	0.0015	0.0000
Ks(max)+xbar=	0.0529	0.0000
Ks(min)+xbar=	-0.0498	0.0000
Drit Rate(per year)=	0.0011	0.0000
y intercept=	0.0000	0.0000

Normality Test Results SummaryFunction= **ABB-27N-t**

Time Interval = 1

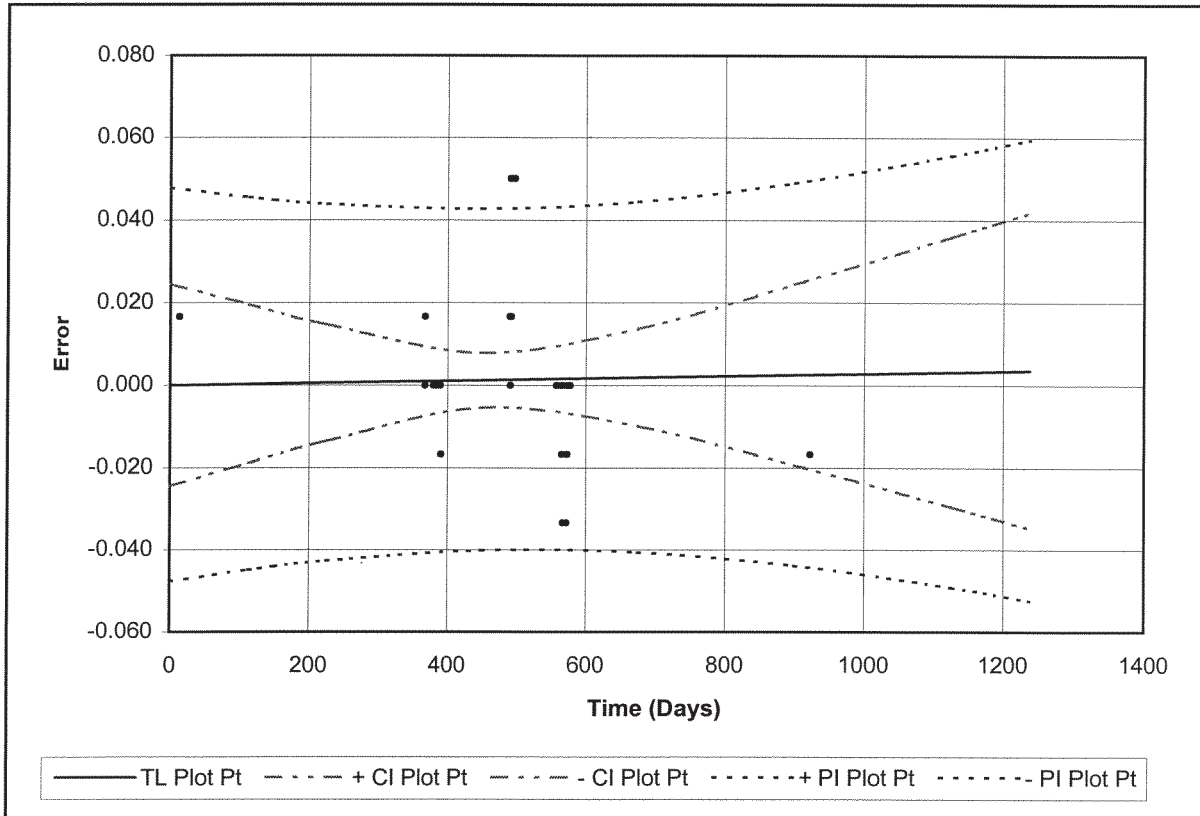
Two-Sided

Setpoint:	Trip	Reset
Test Type=	W Test	W Test
Number Points=	40	40
Normal=	NO	#DIV/0!
W=	0.8578	#DIV/0!
p=	0.9400	0.9400
X(min)=	-0.0350	0.0000
X(max)=	0.0486	0.0000
P=	0.05	0.05

Two Sided

Interval Plot

Pt-1



Days	Trend Line	Confidence Interval			Prediction Interval		
	TL Plot Pt	+/- Value	+ CI Plot Pt	- CI Plot Pt	+/- Value	+ PI Plot Pt	- PI Plot Pt
0	0.0000	0.0245	0.0245	-0.0245	0.0477	0.0477	-0.0477
112.5	0.0003	0.0192	0.0195	-0.0189	0.0452	0.0455	-0.0448
225	0.0006	0.0141	0.0147	-0.0134	0.0432	0.0439	-0.0426
450	0.0013	0.0066	0.0079	-0.0053	0.0414	0.0427	-0.0401
675	0.0019	0.0117	0.0137	-0.0098	0.0425	0.0445	-0.0406
900	0.0026	0.0219	0.0245	-0.0193	0.0464	0.0490	-0.0438
1125	0.0032	0.0327	0.0360	-0.0295	0.0524	0.0556	-0.0491
1237.5	0.0036	0.0382	0.0418	-0.0347	0.0560	0.0595	-0.0524

Number of Points = 40

t Value= 2.024394

Trendline Slope= 2.88E-06 %Span / Day

Trendline Intercept= 0 %Span

s= 0.020193 %Span

alpha= 0.05

Time Int. = 1

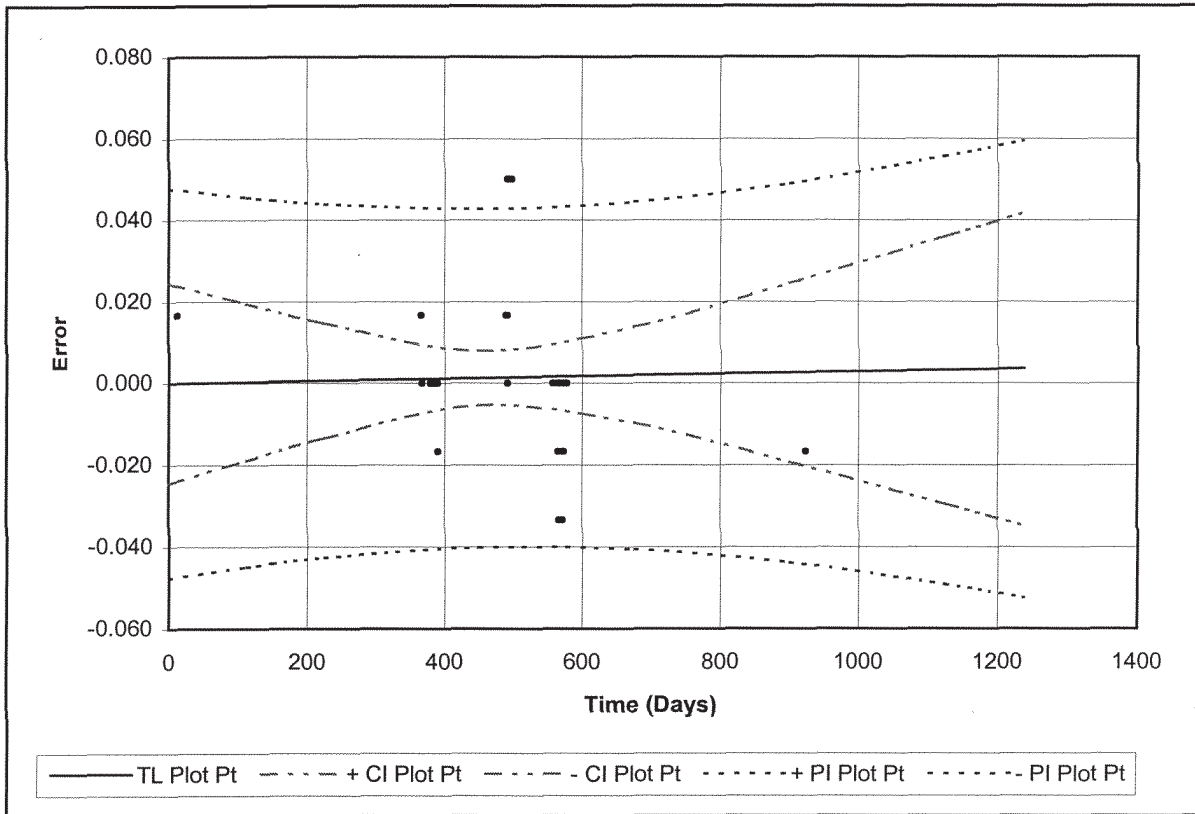
Start = 13

End = 923

Two Sided

Interval Plot

Pt-1



Days	Trend Line	Confidence Interval			Prediction Interval		
	TL Plot Pt	+/- Value	+ CI Plot Pt	- CI Plot Pt	+/- Value	+ PI Plot Pt	- PI Plot Pt
0	0.0000	0.0245	0.0245	-0.0245	0.0477	0.0477	-0.0477
112.5	0.0003	0.0192	0.0195	-0.0189	0.0452	0.0455	-0.0448
225	0.0006	0.0141	0.0147	-0.0134	0.0432	0.0439	-0.0426
450	0.0013	0.0066	0.0079	-0.0053	0.0414	0.0427	-0.0401
675	0.0019	0.0117	0.0137	-0.0098	0.0425	0.0445	-0.0406
900	0.0026	0.0219	0.0245	-0.0193	0.0464	0.0490	-0.0438
1125	0.0032	0.0327	0.0360	-0.0295	0.0524	0.0556	-0.0491
1237.5	0.0036	0.0382	0.0418	-0.0347	0.0560	0.0595	-0.0524

Number of Points = 40
 t Value= 2.024394
 Trendline Slope= 2.88E-06 %Span / Day
 Trendline Intercept= 0 %Span
 s= 0.020193 %Span
 alpha= 0.05

Time Int. = 1
 Start = 13
 End = 923