50-10

Local PDR

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

October 10, 1980

Dockets Nos.: ~~50-10~~
50-237

Mr. J. S. Abel
Director of Nuclear Licensing
Commonwealth Edison Company
Post Office Box 767
Chicago, Illinois 60690

SUBJECT: SEP TOPICS VI-7.C.1, VII-6, VIII-1, VIII-2, AND VIII-3, LOSS OF OFFSITE POWER - DRESDEN 1 & 2

Dear Mr. Abel:

As part of the staff's efforts to obtain reliable information on loss of offsite power in connection with SEP Topics VI-7.C.1, VII-6, VIII-1, VIII-2, and VIII-3, we have prepared the enclosed status report. We are forwarding it to you for review and comment regarding the causes and possible remedies for those events described. We request your response within 60 days of your receipt of this letter.

Sincerely,

Dennis M. Crutchfield

Dennis M. Crutchfield, Chief
Operating Reactors Branch No. 5
Division of Licensing

Enclosure:
As stated

cc w/enclosure:
See next page

cc w/enclosure:
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LOSS OF OFFSITE POWER

SURVEY STATUS REPORT

Abstract: This report describes the method for data analysis and the results of a survey of loss of power events at domestic nuclear power plants.

Introduction: As a result of the staff efforts on several related Generic Activities (e.g., A-35 and A-44) the staff became concerned about the accuracy of the available loss of offsite power data. This concern, along with the results of the Lewis Study, lead the staff to request that all nuclear power plants provide the information specified in Table 1.

Of the 69 licensed nuclear power plants, 13 did not respond. These plants are identified in Table 2. In addition to the survey input, data was also obtained from Licensee Event Reports while evaluating Diesel Generator experience.

Discussion: The steps in data reduction and analysis are summaried below.

1. The data was sorted into Type A or B data in accordance with Table 1. (No Type C data was received).

2. For each event a cause code was assigned. The cause codes are presented in Table 3.

3. A map showing the distribution of the number of each type of failure as a function of each respondant plant was prepared. This is presented as Table 4.*

4. The "age" of each plant was determined based on the date of its first reported loss of offsite power until June 3, 1980. This date is presented as Table 5. (Because Crystal River 3 and Duane Arnold reported that no loss of offsite power events have occurred, the age could not be established and all data fields were set to zero.)

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* Computer output is presented in Appendix A (data) and Appendix B (results).

5. The data of Table 4 was re-plotted as a function of age to yield loss of power event rates (events/year).*

6. The data was subjected to several different analyses to determine if it could be characterized on a generic basis. These attempts were not generally successful because of the large scatter in the data. However, all attempts are identified in the results below.

7. Beyond the attempts to characterize the data on a generic basis, each plant was evaluated, for each of the causes, to determine if its failure experience was significantly different from the average. Significant was defined as a "target" value (events/year) greater than or equal to the mean plus three standard deviations.

8. A draft report (Revision 1) was sent to the utilities that experienced a high number of events in excess of the target values for comment. As a result of the comments received from one of these utilities, the methods were changed such that Table 4 now presents the total number of lines lost per plant per cause and the loss of power rates were calculated on a per line basis by normalizing the data of Table 4 by the number of offsite lines shown in Table 6. (Prior to these changes, plants having a relatively large number of lines, e.g. 5, were exceeding the target values much more often than those with two lines. Thus, those plants that, by virtue of redundancy, were least likely to experience a total loss of power had been shown in a worse light than the smaller grids.)

Results: The following are the numerical results of this study.

1. There have been 1102 reported total and partial losses off offsite power. This represents a mean event rate of 2.75 events/year.

2. There have been 105 total losses of offsite power reported by the 66 respondants. This represents an average rate of 0.26 events/year.

3. The mean duration of a total loss of offsite power is 3.6 hours with a standard deviation of 5.71 hours.

4. The mean time to partial recovery (from a total loss of offsite power) is 2.08 hours with a standard deviation of 4.78 hours.

5. The mean duration of a partial loss of offsite power is 10.66 hours with a standard deviation of 141.57 hours.

6. An attempt was made to obtain a least squares fit of the mean valve of the time of outage vs. the percentage of offsite power lost (% lines). No such fit was achieved (confidence level was less than 95%).

7. The mean duration of outage due to lightening strikes is 0.78 hours with a standard deviation of 4.29 hours.

8. The mean voltage drop is 16.19% with a standard deviation of 29.05%..

9. The mean frequency drop is 3.75 Hz with a standard deviation of 5.55 Hz.

10. The mean frequency decay rate is 1.31 Hz/sec with a standard deviation of 1.8 Hz/sec.

11. Palisades has reported the most significant annual event rates as noted below:

    (a) Total event rate 3.62 vs. a target of 3.55,

    (b) Cause 5 event rate 0.25 vs. a target of 0.25,

    (c) Cause 7 event ate 0.32 vs. a target of 0.21,

    (d) Cause 22 event rate 0.66 vs. a target of 0.63, and

    (e) Cause 29 event rate 0.13 vs. a target of 0.08.

12. Haddam Neck, Turkey Point 3, Indian Point 3, Pilgrim 1, Maine Yankee, and Calvert Cliffs 2 had a 2 causes each that exceeded the target values.

Conclusions

1. The loss of offsite power rate is 2.75 events/reactor year for some loss and 0.26 events/reactor year for total loss.

2. The Palisades station lightening protection and protective relaying system should be further evaluated to determine the causes for the relatively high frequency of trips and to determine if suitable modifications can be made to reduce these rates.

3. Depending on the results of the Palisades studies, consideration should be given to similar studies of the Haddam Neck lightening protection.

Recommendation

Pursue the evaluation of Palisades.

TABLE 1

REQUEST FOR ADDITIONAL INFORMATION
USED IN SURVEY

A. For losses of offsite power where less than all offsite power was lost:

1. How many circuits to the offsite network are normally available and how many were lost during the event?

2. What was the cause of the event?

3. Why did the other lines not fail when some did fail?

4. Was any voltage increase or decrease experienced just prior to or during the outage? If so, please give details, voltages reached, decay rate, affects on equipment operation, etc.?

6. How long was power unavailable from the circuit?

7. Date of Event.

B. For losses of all offsite power:

1. How long was the Power off? How long for partial recovery? Please give details.

2. If turbine trip occurred, how soon after did loss of offsite power occur?

3. If power was recovered promptly (10 minutes or less), was it due to automatic or manual actions?

4. Was any voltage increase or decrease experienced just prior to or during the outage? If so, please give details, voltages reached, affects, etc.

5. Was any frequency decay experienced just prior to or during the outage? If so, please give details, lowest frequency reached, decay rate, affects on equipment operation, etc.

6. Date of Event.

C. Were there any other loss of offsite power events other than we have listed? If so, please give details of each event.

TABLE 2

PLANTS NOT PROVIDING THE DATA REQUESTED IN TABLE 1

ORB#1

50-295 Zion 1
50-304 Zion 2

ORB#3

50-325 Brunswick 1
50-366 E. I. Hatch 2

ORB#4

50-346 Davis-Besse 1
50-269 Oconee 1
50-270 Oconee 2
50-287 Oconee 3
50-312 Rancho Seco
50-289 Three Mile Island 1
50-320 Three Mile Island 2

ORB#5

50-155 Big Rock Point

TABLE 3

CAUSE CODES

Code	Cause
?	Not reported
0	Unknown
3	Manual scram
4	Circuit breaker trip during relay testing, improper yard switching operations, improperly set relays, maintenance errors, relay testing errors, test equipment failure, CT failure, maintenance outages, wiring errors
5	Fault with or without protective relaying failure or with or without manual scram, bolted faults
7	Protective relay or carrier failure
9	Insulator failure (lightening arrester, transmission line insulator, transformer bushing, pot head, cable insulation)
13	Foreign conducting object
15	Winter storm
20	Breaker failure
22	Lightening
23	System undervoltage
24	Transformer winding failure
25	Forest fires
29	Construction activities
31	Summer storm
32	System collapse
34	Mechanical failure of conductors or stays or supporting structures other than code 36
42	System imballance
Misc.	Miscellaneous (i.e. (1) failure is an instrument inverter with a second channe bypassed, (2) turbine generator voltage regulator failure, (10) turbine rumback due to loss of control rod position indication, (12) inadequate line height, (28) lightening with breaker failure, (33) false relay operation with redundant line(s) out of service for maintenance, (35) automatic scram, (36) motor vehicle hitting pole, and (42) system inballance.

TABLE 4

FAILURE MAP

	TOT	7	0	1	2	3	4	5	7	9	10	12	13	15	20	22	23	24	25	28	29	31	32	33	34	35	36	42
3 INDIAN POINT 1	4															2	2											
10 DRESDEN 1	107		24				7		4	18		1	3	12	1	23			2			5			5		1	1
29 YANKEE ROWE	9						2	3	2							2												
133 HUMBOLDT BAY	4							2														2						
155 BIG ROCK POINT	14						2							12														
206 SAN ONOFRE 1	83		15				26	1	6	4			2			4			8		2	5		7	2			1
213 HADDAM NECK	48		15				6		3	3			1			19		1										
219 OYSTER CREEK	21						10			1			2	1		6												1
220 NINE MILE POINT	2																							2				
237 DRESDEN 2	103		24				7		4	18		1	3	12	1	23			2			1			5		1	1
244 GINNA	9		1				1			1		2	4															
245 MILLSTONE 1	27		2						1	15			1		1	5									2			
247 INDIAN POINT 2	4															2	2											
249 DRESDEN 3	103		24				7		4	18		1	3	12	1	23			2			1			5		1	1
250 TURKEY POINT 3	60			14		7	7	7	7	11	7																	
251 TURKEY POINT 4	66			27	7		7	7	7	11																		
254 QUAD CITIES 1	5						1	3									1											
255 PALISADES	171	6	20				27	12	15					11		31		1			6							
259 BROWNS FERRY 1	13						8							4								1						
260 BROWNS FERRY 2	13						8							4								1						
261 H B ROBINSON 2	167		4				148						1	1		12						1						
263 MONTICELLO	7						4	1	1							1												
265 QUAD CITIES 2	5						1	3									1											
266 POINT BEACH 1	9						2						5	2														
267 FT ST VRAIN	1													1														
269 OCONEE 1	8						8																					
270 OCONEE 2	3						3																					
271 VERMONT YANKEE	15						6		2	2								5										
272 SALEM 1	8						4	1											3									
277 PEACH BOTTOM 2	7						4						2			1												
278 PEACH BOTTOM 3	7						4						2			1												
280 SURRY 1	2						1	1																				
281 SURRY 2	2						1	1																				
282 PRAIRIE ISLAND 1	4						2									2												
285 FT. CALHOUN	63		14				7	7	7	14				2	1	2					2	4			3			
286 INDIAN POINT 3	17						1	1							7	4							4					
287 OCONEE 3	2						2																					
289 THREE MILE ISL 1	1						1																					
293 PILGRIM 1	64		8				1		4	5			5	11	3	14			5			2			2	1	3	
295 ZION 1	1						1																					
296 BROWNS FERRY 3	13						8							4								1						
298 COOPER	9						5							4														
301 POINT BEACH 2	7						2						3	2														
302 CRYSTAL RIVER 3	0																											
304 ZION 2	1						1																					
305 KEWAUNEE	8						3											5										
306 PRAIRIE ISLAND 2	4						2									2												
309 MAINE YANKEE	74	1	4				59	3								5		2										
313 ARKANSAS ONE 1	10						4							5		1												
315 D. C. COOK 1	4							1												1	1	1						
316 D. C. COOK 2	6							1	2											1	1	1						
317 CALVERT CLIFFS 1	16						9	2		1											1				2	1		
318 CALVERT CLIFFS 2	14					2	9			1											1				1			
321 E. I. HATCH 1	2						2																					
324 BRUNSWICK 2	2	2																										
331 DUANE ARNOLD	0																											
333 FITZPATRICK	4	2					2																					
334 BEAVER VALLEY 1	8	1					2		1									4										
335 ST. LUCIE 1	4							2		2																		

336 MILLSTONE 2	13		4							9																				
338 NORTH ANNA 1	0																													
344 TROJAN	4						3								1															
346 DAVIS BESSE	1						1																							
348 FARLEY 1	2	2																												
368 ARKANSAS ONE 2	7						1							5		1														
409 LA CROSSE	16						10			2								2			2									
TOTAL	1507	14	141	41	7	9	450	59	70	136	7	5	37	105	16	186	6	20	22	9	17	26	4	2	26	2	6	5		

TABLE 5

AGE

3	Indian Point	7.87
10	Dresden 1	13.56
29	Yankee Rowe	16.98
133	Humbolt Bay	9.54
155	Big Rock Point	8.35
206	San Onofre 1	12.37
213	Haddam Neck	12.1
219	Oyster Creek	12.25
220	Nine Mile Point	6.54
237	Dresden 2	6.25
244	Ginna	11.5
245	Millstone 1	8.94
247	Indian Point 2	7.87
249	Dresden 3	6.26
250	Turkey Point 3	6.26
251	Turkey Point 4	6.26
254	Quad Cities 1	4.77
255	Palisades	8.91
259	Browns Ferry 1	6.56
260	Browns Ferry 2	6.56
263	Monticello	9.21
265	Quad Cities 2	4.77
266	Point Beach 1	9.32
267	Fort St. Vrain	5.37
269	Oconee 1	6.41
270	Oconee 2	6.54
271	Vermont Yankee	8.09
272	Salem 1	3.09
277	Peach Bottom 2	6.05
278	Peach Bottom 3	6.05
280	Surry 1	5.98
281	Surry 2	5.98
282	Prairie Island 1	3.16
285	Ft. Calhoun	6.76
286	Indian Point 3	2.89
287	Oconee 3	6.41
289	Three Mile Island 1	3.01
293	Pilgrim 1	8.29
295	Zion 1	1.23
296	Browns Ferry 3	6.56
298	Cooper	4.28
301	Point Beach 2	9.32
302	Crystal River 3	
304	Zion 2	1.23
305	Kewaunee	1.56
306	Prairie Island 2	3.16
309	Maine Yankee	1.76
315	D.C. Cook 1	5.29
316	D.C. Cook 2	5.29
317	Calvert Cliffs 1	6.45
318	Calvert Cliffs 2	4.34
321	E.I. Hatch 1	2.68
324	Brunswick 2	5.19
331	Duane Arnold	
333	FitzPatrick	1.42
334	Beaver Valley 1	3.47
335	St. Lucie 1	3.05
336	Millstone 2	4.17
344	Trojan	4.13
346	Davis Besse	0.23
348	Farley 1	2.71
368	Arkansas One 2	5.28
409	La Crosse	9.37

TABLE 6

NUMBER OF OFFSITE LINES

DOC	NL	DOC	NL
3	2	304	2
10	4	305	3
29	2	306	2
133	2	309	2
155	2	313	4
206	7	315	2
213	2	316	2
219	3	317	2
220	2	318	2
237	7	321	2
244	2	324	2
245	2	331	2
247	2	333	2
249	7	334	2
250	7	335	2
251	7	336	2
254	4	338	2
255	5.3*	344	2
259	8	346	2
260	8	348	2
261	6.5*	368	4
263	2	409	2
265	4		
266	2		
267	2		
269	2		
270	2		
271	5		
272	2		
277	2		
278	2		
280	2		
281	2		
282	2		
285	7		
286	4		
287	2		
289	2		
293	3		
295	2		
296	8		
298	5		
301	2		
302	2		

* average number available during study period

APPENDIX A
DATA

```
  BLEZ
SUKE*Y
  -BEWIN*LOF A KEY*
FOUND LOF A KEY 1
  FEI
    FKINI
```

TOP A KEY

COLUMN	CONTENT/SCALE
1/1	DOCKET #
2/8	NUMBER OF OFFSITE LINES NORMALLY AVAILABLE
3/11	NUMBER OF LINES LOST DURING THE EVENT
4/14	CAUSE (CODE)
5/17	REASON THAT NOT ALL OF THE LINES FAILED (CODE)
6/20(I)	VOLTAGE INCREASE (+) OR DECREASE (-), EXTREME VALUE/VOLTS, BEFORE (B) OR DURING (D) OUTAGE, EQUIPMENT DAMAGE (Y OR N)
7/35(I)	FREQUENCY INCREASE (+) OR DECREASE(-),EXTREME VALUE/HZ,MAXIMUM RATE/HZ/SEC, BEFORE ((B) OR DURING (D) EVENT, EQUIPMENT DAMAGE (Y OR N)
8/52(I)	DURATION OF LOSS/HOURS
9/58(I)	DATE MM/DD/YY

50-10#	4	1	15	1	-,0	,D,N	-,0	,?,D,N	0.05	12/ 1/74
50-10#	4	1	15	1	-,0	,D,N	-,0	,?,D,N	0	12/ 1/74
50-10#	4	1	15	1	-,0	,D,N	-,0	,?,D,N	0	12/ 1/74
50-10#	4	1	15	1	-,0	,D,N	-,0	,?,D,N	0	12/ 1/74
50-10#	4	1	15	1	-,0	,D,N	-,0	,?,D,N	0	12/ 1/74
50-10#	4	1	34	1	-,0	,D,N	-,0	,?,D,N	0	5/21/74
50-10#	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0	3/ 6/74
50-10#	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0	3/ 4/74
50-10#	4	1	4	1	-,0	,D,N	-,0	,?,D,N	0.17	3/29/79
50-10#	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0	7/20/76
50-10#	4	1	4	1	-,0	,D,N	-,0	,?,D,N	0	1/26/76
50-10#	4	1	4	1	-,0	,D,N	-,0	,?,D,N	0.63	1/26/76
50-10#	4	1	15	1	-,0	,D,N	-,0	,?,D,N	2.4	3/27/75
50-10#	4	1	15	1	-,0	,D,N	-,0	,?,D,N	0.48	3/27/75
50-10#	4	1	13	1	-,0	,D,N	-,0	,?,D,N	0	1/17/75
50-10#	4	1	9	1	-,0	,D,N	-,0	,?,D,N	0.03	1/18/79
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0	7/13/76
50-10#	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0	1/10/75
50-10#	4	1	7	1	-,0	,D,N	-,0	,?,D,N	0	2/20/79
50-10#	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0	6/30/78
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	22.8	4/ 2/78
50-10#	4	1	4	1	-,0	,D,N	-,0	,?,D,N	0.68	12/21/77
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0.28	12/21/77
50-10#	4	1	9	1	-,0	,D,N	-,0	,?,D,N	0	1/18/79
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0	2/ 8/78
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0	2/ 8/78
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0	2/ 3/78
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0	2/ 4/78
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0	8/30/75
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0	8/22/75
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0	8/11/75
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0	2/21/75
50-10#	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0	6/25/78
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0	8/22/75
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0	8/ 1/75
50-10#	4	1	34	1	-,0	,D,N	-,0	,?,D,N	15.92	7/ 2/74
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	20.33	4/ 5/79
50-10#	4	1	15	1	-,0	,D,N	-,0	,?,D,N	0	12/20/77
50-10#	4	1	15	1	-,0	,D,N	-,0	,?,D,N	0	12/20/77
50-10#	4	1	15	1	-,0	,D,N	-,0	,?,D,N	0	12/20/77
50-10#	4	1	34	1	-,0	,D,N	-,0	,?,D,N	0	10/25/77
50-10#	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0.13	5/21/77
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0	1/28/77
50-10#	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0.67	6/20/75
50-10#	4	1	9	1	-,0	,D,N	-,0	,?,D,N	3.37	4/ 7/74
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	19.45	11/26/78
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0	7/31/78
50-10#	4	1	15	1	-,0	,D,N	-,0	,?,D,N	9.82	12/20/77
50-10#	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0	1/ 1/76
50-10#	4	1	31	3	-,0	,D,N	-,0	,?,D,N	197.7	5/20/75

50-10*	4	1	34	1	-,0		,B,N	-,0	,?,B,N	33.39	3/28/75
50-10*	4	1	15	1	-,0		,B,N	-,0	,?,B,N	0	3/27/75
50-10*	4	1	22	1	-,0		,B,N	-,0	,?,B,N	0	6/ 6/74
50-10*	4	1	22	1	-,0		,B,N	-,0	,?,B,N	0	10/15/79
50-10*	4	1	22	1	-,0		,B,N	-,0	,?,B,N	0	8/18/79
50-10*	4	1	22	1	-,0		,B,N	-,0	,?,B,N	0	8/ 5/79
50-10*	4	1	34	1	-,0		,B,N	-,0	,?,B,N	1.25	3/29/79
50-10*	4	1	4	1	-,0		,B,N	-,0	,?,B,N	0.07	6/22/77
50-10*	4	1	42	1	-,0		,B,N	-,0	,?,B,N	0.53	5/24/77
50-10*	4	1	13	1	-,0		,B,N	-,0	,?,B,N	0.28	4/ 6/74
50-10*	4	1	9	1	-,0		,B,N	-,0	,?,B,N	0	3/18/74
50-10*	4	1	9	1	-,0		,B,N	-,0	,?,B,N	0	3/18/74
50-10*	4	1	9	1	-,0		,B,N	-,0	,?,B,N	0	3/18/74
50-10*	4	1	9	1	-,0		,B,N	-,0	,?,B,N	0	3/18/74
50-10*	4	1	0	0	-,0		,B,N	-,0	,?,B,N	0	3/28/74
50-334	2	1	4	1	-,0		,B,N	-,0	,?,B,N	0.92	5/11/77
50-334	2	1	7	1	-,0		,B,N	-,0	,?,B,N	0.98	11/17/77
50-334	2	1	4	1	-,0		,B,N	-,0	,?,B,N	0.63	12/12/76
50-250	7	4	9	1	-,0		,B,N	-,0	,?,B,N	0.05	4/ 4/79
50-251	7	4	9	1	-,0		,B,N	-,0	,?,B,N	0.05	4/ 4/79
50-244	2	1	9	1	-,0		,B,N	-,0	,?,B,N	12	1/ 2/71
50-266	2	1	13	2	-,0		,B,N	-,0	,?,B,N	?	4/13/71
50-301	2	1	13	2	-,0		,B,N	-,0	,?,B,N	?	4/13/71
50-348	2	1	7	1	0,?		,B,N	0,60	,0,B,N	5.52	8/12/78
50-298	5	4	15	3	-,0		,B,N	-,0	,?,B,N	0.48	2/21/76
50-344	2	1	4	1	-,0		,B,N	-,0	,?,B,N	13.78	4/16/76
50-344	2	1	4	1	-,0		,B,N	-,0	,?,B,N	0.27	1/23/77
50-344	2	1	4	1	-,0		,B,N	-,0	,?,B,N	3.87	4/29/77
50-344	2	1	20	1	-,0		,B,N	-,0	,?,B,N	0.5	10/18/77
50-263	2	1	4	2	-,0		,B,N	-,0	,?,B,N	0.02	3/17/71
50-263	2	1	4	2	-,0		,B,N	-,0	,?,B,N	0.57	12/ 7/71
50-263	2	1	5	1	-,0		,B,N	-,0	,?,B,N	123.1	5/ 1/72
50-263	2	1	4	1	-,0		,B,N	-,0	,?,B,N	0.52	10/11/72
50-263	2	1	4	1	-,0		,B,N	-,0	,?,B,N	0.48	9/ 9/72
50-263	2	1	22	3	-,103/122K		,B,N	-,0	,?,B,N	48.93	6/26/76
50-263	2	1	7	1	1,357/350K		,B,N	-,0	,?,B,N	24	16/16/78
50-254	4	1	4	1	-,0		,B,N	-,0	,?,B,N	7.70	8/26/75
50-265	4	1	4	1	-,0		,B,N	-,0	,?,B,N	7.70	8/26/75
50-254	4	0	23	1	-,330/345K		,B,N	0,60	,0,B,N	0.67	2/13/78
50-265	4	0	23	1	-,330/345K		,B,N	0,60	,0,B,N	0.67	2/13/78
50-254	4	3	5	1	-,0/4K		,B,N	0,60	,0,B,N	?	11/ 6/79
50-265	4	3	5	1	-,0/4K		,B,N	0,60	,0,B,N	?	11/ 6/79
50-272	2	1	25	1	-,0		,B,N	-,0	,?,B,N	0.75	5/13/77
50-272	2	1	25	1	-,0		,B,N	-,0	,?,B,N	1.28	2/ 2/77
50-272	2	1	4	1	-,0		,B,N	-,0	,?,B,N	4.68	7/ 8/77
50-272	2	1	4	1	-,0		,B,N	-,0	,?,B,N	1.73	6/17/77
50-272	2	1	4	1	-,0		,B,N	-,0	,?,B,N	2.38	4/20/78
50-315	2	1	5	1	-,0		,B,N	-,0	,?,B,N	73.1	2/17/75
50-316	2	1	5	1	-,0		,B,N	-,0	,?,B,N	73.1	2/17/75
50-315	2	1	28	1	-,221/345K		,B,N	-,0	,?,B,N	2.18	9/ 1/77
50-316	2	1	28	1	-,221/345K		,B,N	-,0	,?,B,N	2.18	9/ 1/77
50-315	2	1	29	1	-,0		,B,N	-,0	,?,B,N	3.63	12/13/77
50-316	2	1	29	1	-,0		,B,N	-,0	,?,B,N	3.63	12/13/77
50-315	2	1	31	1	-,0		,B,N	-,0	,?,B,N	10.5	4/ 6/77
50-316	2	1	31	1	-,0		,B,N	-,0	,?,B,N	10.5	4/ 6/77
50-286	4	1	22	1	-,?		,B,N	-,?	,?,B,N	0.93	5/ 6/77
50-286	4	1	5	1	-,?		,B,N	-,?	,?,B,N	32.17	1/24/78
50-293	3	1	15	1	-,0		,B,N	-,0	,?,B,N	1.6	2/19/72

50-293	3	1	31	1	-,0	,D,N	-,0	,?,D,N	?	9/ 3/72
50-293	3	1	34	1	-,0	,D,N	-,0	,?,D,N	0.52	2/ 2/73
50-293	3	1	9	1	-,0	,D,N	-,0	,?,D,N	10.75	3/29/73
50-293	3	1	9	1	-,0	,D,N	-,0	,?,D,N	19.07	3/30/73
50-293	3	1	35	1	-,0	,D,N	-,0	,?,D,N	0.92	9/ 8/73
50-293	3	1	9	1	-,0	,D,N	-,0	,?,D,N	1.22	3/21/74
50-293	3	2	22	1	-,0	,D,N	-,0	,?,D,N	1.6	4/15/74
50-293	3	1	22	1	-,0	,D,N	-,0	,?,D,N	0.1	5/ 7/74
50-293	3	2	0	0	-,0	,D,N	-,0	,?,D,N	1.35	5/26/74
50-293	3	1	13	1	-,0	,D,N	-,0	,?,D,N	0.17	9/ 6/74
50-293	3	1	9	1	-,0	,D,N	-,0	,?,D,N	16.58	11/10/74
50-293	3	1	9	1	-,0	,D,N	-,0	,?,D,N	16.33	11/11/74
50-293	3	1	0	0	-,0	,D,N	-,0	,?,D,N	1.15	11/11/74
50-293	3	1	31	1	-,0	,D,N	-,0	,?,D,N	0.17	11/13/74
50-293	3	1	13	1	-,0	,D,N	-,0	,?,D,N	1.02	12/ 2/74
50-293	3	1	13	1	-,0	,D,N	-,0	,?,D,N	0.15	12/25/74
50-293	3	1	36	1	-,0	,D,N	-,0	,?,D,N	0.003	12/25/74
50-293	3	3	0	0	-,0	,D,N	-,0	,?,D,N	7.08	4/30/75
50-293	3	1	0	0	-,0	,D,N	-,0	,?,D,N	0.3	4/30/75
50-293	3	1	13	1	-,0	,D,N	-,0	,?,D,N	9.82	5/01/75
50-293	3	1	36	1	-,0	,D,N	-,0	,?,D,N	5.27	9/12/75
50-293	3	2	20	1	-,0	,D,N	-,0	,?,D,N	1.02	9/13/75
50-293	3	1	15	1	-,0	,D,N	-,0	,?,D,N	0.98	1/12/76
50-293	3	2	22	1	-,0	,D,N	-,0	,?,D,N	0.53	3/13/76
50-293	3	1	36	1	-,0	,D,N	-,0	,?,D,N	0.03	6/19/76
50-293	3	1	7	1	-,0	,D,N	-,0	,?,D,N	0.03	8/ 4/76
50-293	3	1	7	1	-,0	,D,N	-,0	,?,D,N	0.03	8/ 4/76
50-293	3	1	0	0	-,0	,D,N	-,0	,?,D,N	0.17	12/12/76
50-293	3	1	15	1	-,0	,D,N	-,0	,?,D,N	0	1/ 7/77
50-293	3	1	15	1	-,0	,D,N	-,0	,?,D,N	0	1/ 7/77
50-293	3	1	34	1	-,0	,D,N	-,0	,?,D,N	32.28	1/10/77
50-293	3	1	0	0	-,0	,D,N	-,0	,?,D,N	0.003	1/12/77
50-293	3	2	25	1	-,0	,D,N	-,0	,?,D,N	0.52	5/ 1/77
50-293	3	1	7	1	-,0	,D,N	-,0	,?,D,N	2.9	5/ 2/77
50-293	3	1	22	1	-,0	,D,N	-,0	,?,D,N	0.17	7/21/77
50-293	3	1	20	1	-,0	,D,N	-,0	,?,D,N	1.97	12/ 6/77
50-293	3	1	15	1	-,0	,D,N	-,0	,?,D,N	27.18	1/20/78
50-293	3	1	7	1	-,0	,D,N	-,0	,?,D,N	1.67	7/ 3/78
50-293	3	2	22	1	-,0	,D,N	-,0	,?,D,N	0.37	8/ 6/78
50-293	3	2	22	1	-,0	,D,N	-,0	,?,D,N	0.23	7/27/79
50-293	3	1	22	1	-,0	,D,N	-,0	,?,D,N	0.27	8/28/79
50-206	7	1	0	0	-,0	,D,N	-,0	,?,D,N	0.47	1/20/68
50-206	7	1	4	1	-,0	,D,N	-,0	,?,D,N	0.28	3/25/68
50-206	7	1	0	0	-,?	,D,N	-,?	,?,D,N	0.2	4/ 2/68
50-206	7	1	7	1	-,.5/138K	,D,N	-,0	,?,D,N	0.03	6/11/68
50-206	7	1	4	1	-,0	,D,N	-,0	,?,D,N	0.13	6/13/68
50-206	7	1	0	0	-,0	,D,N	-,0	,?,D,N	2.22	1/ 6/69
50-206	7	1	31	1	-,2/4K	,D,N	-,0	,?,D,N	7.22	2/ 6/69
50-206	7	3	31	1	-,0	,D,N	-,61.6	,?,D,N	20	2/24/69
50-206	7	1	25	1	-,?	,D,N	-,0	,?,D,N	0.03	8/22/69
50-206	7	1	4	1	-,0	,D,N	-,0	,?,D,N	0.015	1/12/70
50-206	7	1	4	1	-,0	,D,N	-,0	,?,D,N	0.62	5/19/70
50-206	7	1	31	1	-,0	,D,N	-,0	,?,D,N	0.03	12/21/70
50-206	7	1	7	1	-,0	,D,N	-,0	,?,D,N	0.03	6/22/71
50-206	7	1	29	1	-,0	,D,N	-,0	,?,D,N	0.08	6/22/71
50-206	7	1	7	1	-,0	,D,N	-,0	,?,D,N	0.05	9/15/71
50-206	7	1	7	1	-,0	,D,N	-,0	,?,D,N	7.47	10/31/71

50-206	7	1	0	0	-,0	,D,N -,0	,?,D,N	7.75	1/15/72
50-206	7	1	4	1	-,0	,D,N -,0	,?,D,N	0.32	5/25/72
50-206	7	1	29	1	-,0	,D,N -,0	,?,D,N	7.08	8/ 9/72
50-206	7	1	4	1	-,0	,D,N -,0	,?,D,N	0.93	8/12/72
50-206	7	1	42	1	-,0	,D,N -,0	,?,D,N	0	8/12/72
50-206	7	1	22	1	-,0	,D,N -,0	,?,D,N	1.3	8/12/72
50-206	7	1	7	1	-,0	,D,N -,0	,?,D,N	0.08	4/ 1/73
50-206	7	1	0	0	-,0	,D,N -,0	,?,D,N	0.05	8/ 6/73
50-206	7	1	9	1	-,0	,D,N -,0	,?,D,N	0.18	8/15/73
50-206	7	1	13	1	-,0	,D,N -,0	,?,D,N	0.45	8/16/73
50-206	7	1	9	1	-,0	,D,N -,0	,?,D,N	0.08	9/17/73
50-206	7	1	0	1	-,0	,D,N -,0	,?,D,N	0.13	11/29/73
50-206	7	1	0	0	-,0	,D,N -,0	,?,D,N	0.13	2/23/74
50-206	7	1	0	0	-,0	,D,N -,0	,?,D,N	0.03	4/15/74
50-206	7	1	9	1	-,0	,D,N -,0	,?,D,N	5.02	11/ 7/74
50-206	7	1	0	0	-,0	,D,N -,0	,?,D,N	5.55	2/15/75
50-206	7	1	13	1	-,0	,D,N -,0	,?,D,N	0.13	4/23/75
50-206	7	1	0	0	-,0	,D,N -,0	,?,D,N	0.07	8/12/75
50-206	7	1	25	1	-,0	,D,N -,0	,?,D,N	1.12	9/23/75
50-206	7	1	0	0	-,0	,D,N -,0	,?,D,N	0.08	9/24/75
50-206	7	4	25	1	-,0	,D,N -,0	,?,D,N	4.42	1/21/76
50-206	7	1	34	1	-,0	,D,N -,0	,?,D,N	2.18	1/30/76
50-206	7	1	9	1	-,0	,D,N -,0	,?,D,N	0.02	3/31/76
50-206	7	1	22	1	-,0	,D,N -,0	,?,D,N	0.03	9/24/76
50-206	7	1	34	1	-,0	,D,N -,0	,?,D,N	3.75	5/12/77
50-206	7	1	22	1	-,0	,D,N -,0	,?,D,N	0.05	7/23/77
50-206	7	1	25	1	-,0	,D,N -,0	,?,D,N	0	11/29/77
50-206	7	1	5	1	-,0	,D,N -,0	,?,D,N	2.5	3/ 8/78
50-206	7	1	0	0	-,0	,D,N -,0	,?,D,N	0.15	5/22/78
50-206	7	1	0	0	-,0	,D,N -,0	,?,D,N	0.3	5/28/78
50-206	7	1	7	1	-,0	,D,N -,0	,?,D,N	0.01	6/ 4/78
50-206	7	1	0	0	-,0	,D,N -,0	,?,D,N	0	6/15/78
50-206	7	1	0	0	-,0	,D,N -,0	,?,D,N	0.17	6/17/78
50-206	7	1	22	1	-,0	,D,N -,0	,?,D,N	0.07	12/19/78
50-206	7	1	25	1	-,0	,D,N -,0	,?,D,N	2.23	9/15/79
50-219	3	1	42	1	-,0	,D,N -,0	,?,D,N	0.02	8/24/78
50-104	4	1	4	1	-,0	,D,N -,0	,?,D,N	7.25	1/22/78
50-219	3	1	15	1	-,0	,D,N -,0	,?,D,N	0	3/ 4/68
50-219	3	1	4	1	-,0	,D,N -,0	,?,D,N	0	4/19/69
50-219	3	1	22	1	-,0	,D,N -,0	,?,D,N	0	6/14/69
50-219	3	1	9	1	-,0	,D,N -,0	,?,D,N	0	10/27/71
50-219	3	1	13	1	-,0	,D,N -,0	,?,D,N	2.02	6/11/72
50-219	3	1	13	1	-,0	,D,N -,0	,?,D,N	2.02	6/11/72
50-219	3	1	22	1	-,0	,D,N -,0	,?,D,N	0	7/ 3/72
50-219	3	1	22	1	-,0	,D,N -,0	,?,D,N	0.02	6/30/73
50-219	3	1	4	1	-,0	,D,N -,0	,?,D,N	0	9/17/74
50-219	3	1	4	1	-,0	,D,N -,0	,?,D,N	0	9/17/74
50-219	3	1	4	1	-,0	,D,N -,0	,?,D,N	1.65	12/18/74
50-104	4	1	0	0	-,0	,D,N -,0	,?,D,N	29.93	6/25/78
50-104	4	1	20	1	-,0	,D,N -,0	,?,D,N	5.65	10/21/77
50-104	4	1	0	0	-,0	,D,N -,0	,?,D,N	19.8	1/20/77
50-104	4	1	0	0	-,0	,D,N -,0	,?,D,N	0	7/19/79
50-104	4	1	22	1	-,0	,D,N -,0	,?,D,N	0	9/30/77
50-104	4	1	9	1	-,0	,D,N -,0	,?,D,N	0	1/24/77
50-104	4	1	9	1	-,0	,D,N -,0	,?,D,N	0.07	12/18/76

50	10*	4	1	9	1	-,0	,D,N	-,0	,?,D,N	1.05	12/17/76
50	10*	4	1	9	1	-,0	,D,N	-,0	,?,D,N	0.7	12/17/76
50	10*	4	1	7	1	-,0	,D,N	-,0	,?,D,N	0	5/ 5/76
50	10*	4	1	9	1	-,0	,D,N	-,0	,?,D,N	0	4/23/76
50	10*	4	1	4	1	-,0	,D,N	-,0	,?,D,N	0	9/ 1/74
50	10*	4	1	7	1	-,0	,D,N	-,0	,?,D,N	0	8/19/74
50	10*	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0	8/ 2/74
50	10*	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0	3/ 2/79
50	10*	4	1	9	1	-,0	,D,N	-,0	,?,D,N	0	1/24/77
50	10*	4	1	9	1	-,0	,D,N	-,0	,?,D,N	0	12/17/76
50	10*	4	1	0	0	-,0	,D,N	-,0	,?,D,N	0	11/20/76
50	10*	4	1	12	1	-,0	,D,N	-,0	,?,D,N	0	6/ 4/76
50	10*	4	1	15	1	-,0	,D,N	-,0	,?,D,N	0	8/11/75
50	10*	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0	5/30/75
50	10*	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0.85	7/ 3/79
50	10*	4	1	36	1	-,0	,D,N	-,0	,?,D,N	0	4/ 6/79
50	10*	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0	6/25/79
50	10*	4	1	9	1	-,0	,D,N	-,0	,?,D,N	0	10/10/77
50	10*	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0	9/ 1/77
50	10*	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0	7/ 3/77
50	10*	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0	6/30/77
50	10*	4	1	0	1	-,0	,D,N	-,0	,?,D,N	0	8/ 9/76
50	10*	4	1	22	1	-,0	,D,N	-,0	,?,D,N	0	10/24/75
50	10*	4	1	7	1	-,0	,D,N	-,0	,?,D,N	9.17	7/13/75

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50-104	2	1	22	1	-,0	,D,N -,0	,?,D,N	0.37	6/11/77
50-104	4	1	22	1	-,0	,D,N -,0	,?,D,N	0.63	4/27/75
50-104	4	1	25	1	-,0	,D,N -,0	,?,D,N	2.37	1/13/77
50-104	4	1	9	1	-,0	,D,N -,0	,?,D,N	0	3/18/74
50-104	4	1	9	1	-,0	,D,N -,0	,?,D,N	0	3/18/74
50-104	4	1	9	1	-,0	,D,N -,0	,?,D,N	0	3/18/74
50-213	2	1	0	0	0,0	,D,N 0,0	,0,D,N	0.5	2/ 9/69
50-213	2	1	0	0	0,0	,D,N 0,0	,0,D,N	0.02	8/16/69
50-213	2	1	0	0	0,0	,D,N 0,0	,0,D,N	0.02	8/16/69
50-213	2	1	0	0	0,0	,D,N 0,0	,0,D,N	0.02	8/16/69
50-213	2	1	9	1	0,0	,D,N 0,0	,0,D,N	1.68	9/14/69
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.02	3/ 3/70
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.02	3/ 3/70
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.02	4/ 4/70
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.78	6/ 6/70
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.17	6/12/70
50-213	2	1	7	1	0,0	,D,N 0,0	,0,D,N	0.02	6/15/70
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.02	7/26/70
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.02	7/26/70
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.05	8/15/70
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.92	8/17/70
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.05	8/17/70
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.13	8/17/70
50-213	2	1	24	1	0,0	,D,N 0,0	,0,D,N	129.8	9/18/70
50-213	2	1	13	1	0,0	,D,N 0,0	,0,D,N	0.02	11/20/70
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.13	9/ 9/71
50-213	2	1	0	0	0,0	,D,N 0,0	,0,D,N	0.02	11/ 7/71
50-213	2	1	7	1	0,0	,D,N 0,0	,0,D,N	0.02	2/27/72
50-213	2	1	7	1	0,0	,D,N 0,0	,0,D,N	0.02	2/27/72
50-213	2	1	0	0	0,0	,D,N 0,0	,0,D,N	0.02	6/29/72
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.02	7/19/72
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.02	7/19/72
50-213	2	1	0	0	0,0	,D,N 0,0	,0,D,N	0.02	2/ 7/73
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.02	5/11/73
50-213	2	1	4	1	0,0	,D,N 0,0	,0,D,N	0.33	2/11/74
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.02	8/17/74
50-213	2	1	4	1	0,0	,D,N 0,0	,0,D,N	0.02	12/30/74
50-213	2	1	0	0	0,0	,D,N 0,0	,0,D,N	0.02	6/24/75
50-213	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.02	6/ 1/76
50-213	2	1	0	0	0,0	,D,N 0,0	,0,D,N	0.02	6/24/76
50-213	2	1	0	0	0,0	,D,N 0,0	,0,D,N	2.75	6/26/76
50-213	2	1	0	0	0,0	,D,N 0,0	,0,D,N	0.02	11/23/76
50-213	2	1	0	0	0,0	,D,N 0,0	,0,D,N	0.02	1/ 1/77
50-213	2	1	0	0	0,0	,D,N 0,0	,0,D,N	0.02	1/25/78
50-245	2	1	22	1	0,0	,D,N 0,0	,0,D,N	1.38	6/24/71
50-245	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.52	6/25/71
50-245	2	1	34	1	0,0	,D,N 0,0	,0,D,N	0.48	10/ 4/71
50-245	2	1	9	1	0,0	,D,N 0,0	,0,D,N	26.42	2/ 6/72
50-245	2	1	13	1	0,0	,D,N 0,0	,0,D,N	5.92	8/25/72

50-245	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.02	4/27/73
50-245	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.02	8/27/73
50-245	2	1	22	1	0,0	,D,N 0,0	,0,D,N	0.02	8/27/73
50-245	2	1	0	0	0,0	,D,N 0,0	,0,D,N	0.02	5/10/77
50-245	2	1	0	0	0,0	,D,N 0,0	,0,D,N	0.08	5/13/77
50-245	2	1	7	1	0,0	,D,N 0,0	,0,D,N	0.28	12/16/77
50-245	2	1	20	1	0,0	,D,N 0,0	,0,D,N	0.45	5/23/79
50-245	2	1	34	1	0,0	,D,N 0,0	,0,D,N	3	7/11/79
50-282	3	2	4	1	-,0	,D,N -,0	,?,D,N	0.52	4/ 6/77
50-306	3	2	4	1	-,0	,D,N -,0	,?,D,N	0.52	4/ 6/77
50-282	3	2	22	1	-,?	,D,N -,0	,?,D,N	0.58	9/12/78
50-306	3	2	22	1	-,?	,D,N -,0	,?,D,N	0.58	9/12/78
50-255	6	1	5	1	-,0	,D,N -,60	,0,D,N	0.02	6/27/78
50-255	6	1	22	1	-,?	,D,N 0,60	,0,D,N	0.02	7/22/78
50-255	6	1	22	1	-,?	,D,N 0,60	,0,D,N	0.02	6/18/78
50-255	6	1	4	1	-,?	,D,N 0,60	,0,D,N	0.02	6/26/78
50-255	6	1	4	1	-,0	,D,N 0,60	,0,D,N	0.02	1/12/78
50-255	6	1	4	1	-,0	,D,N 0,60	,0,D,N	0.15	3/27/78
50-255	6	1	15	1	-,?	,D,N 0,60	,0,D,N	0.02	1/14/77
50-255	6	1	15	1	-,?	,D,N 0,60	,0,D,N	0.02	2/ 7/77
50-255	6	1	15	1	-,?	,D,N 0,60	,0,D,N	0.02	2/ 7/77
50-255	6	1	15	1	-,?	,D,N 0,60	,0,D,N	0.02	2/ 7/77
50-255	6	1	15	1	-,?	,D,N 0,60	,0,D,N	0.02	2/ 7/77
50-255	6	1	15	1	-,?	,D,N 0,60	,0,D,N	2.17	2/ 7/77
50-255	6	1	15	1	0,0	,D,N 0,60	,0,D,N	0.25	2/ 7/77
50-255	6	1	22	1	-,?	,D,N 0,60	,0,D,N	0.02	3/12/77
50-255	6	1	22	1	-,?	,D,N 0,60	,0,D,N	0.02	6/28/77
50-255	6	1	4	1	0,0	,D,N 0,60	,0,D,N	0.02	7/31/77
50-255	6	1	4	1	0,0	,D,N 0,60	,0,D,N	0.02	8/20/77
50-255	6	1	4	1	0,0	,D,N 0,60	,0,D,N	0.02	1/12/76
50-255	6	1	5	1	-,?	,D,N 0,60	,0,D,N	0.32	3/ 1/76
50-255	6	1	7	1	-,?	,D,N 0,60	,0,D,N	0.02	3/ 2/76
50-255	6	1	22	1	-,?	,D,N 0,60	,0,D,N	0.02	6/22/76
50-255	6	1	22	1	-,?	,D,N 0,60	,0,D,N	0.02	6/30/76
50-255	6	1	4	1	-,?	,D,N 0,60	,0,D,N	?	3/30/77
50-255	6	1	5	1	-,?	,D,N 0,60	,0,D,N	0.02	6/14/77
50-255	6	1	4	1	-,?	,D,N 0,60	,0,D,N	0.02	7/20/76
50-255	6	1	22	1	-,?	,D,N 0,60	,0,D,N	0.02	7/24/76
50-255	6	1	22	1	-,0	,D,N 0,60	,0,D,N	0.02	8/27/76
50-255	6	1	4	1	-,0	,D,N 0,60	,0,D,N	0.02	12/17/76
50-255	6	1	4	1	0,0	,D,N 0,60	,0,D,N	0.02	12/15/78
50-255	6	1	7	1	-,?	,D,N 0,60	,0,D,N	0.02	3/22/75
50-255	6	1	22	1	-,?	,D,N 0,60	,0,D,N	0.02	4/18/75
50-255	6	1	5	1	0,0	,D,N 0,60	,0,D,N	0.5	6/ 4/75
50-255	6	1	22	1	-,?	,D,N 0,60	,0,D,N	0.02	8/10/75
50-255	6	1	4	1	0,0	,D,N 0,60	,0,D,N	0.17	8/18/75
50-255	6	1	7	1	0,0	,D,N 0,60	,0,D,N	0.5	6/ 4/75
50-255	6	1	22	1	-,?	,D,N 0,60	,0,D,N	0.02	8/10/75
50-255	6	1	4	1	-,?	,D,N 0,60	,0,D,N	0.02	3/29/74
50-255	6	1	22	1	-,?	,D,N 0,60	,0,D,N	0.02	4/14/74
50-255	6	1	0	0	0,0	,D,N 0,60	,0,D,N	0.23	6/20/74
50-255	6	1	0	0	0,0	,D,N 0,60	,0,D,N	0.02	6/20/74
50-255	6	1	22	1	-,?	,D,N 0,60	,0,D,N	0.02	8/26/74
50-255	4	1	29	1	0,0	,D,N 0,60	,0,D,N	1.0	2/28/73
50-255	4	1	22	1	-,?	,D,N 0,60	,0,D,N	0.02	3/31/73
50-255	4	1	7	1	0,0	,D,N 0,60	,0,D,N	0.02	3/31/73
50-255	4	2	7	1	-,?	,D,N 0,60	,0,D,N	0.02	4/22/73
50-255	4	1	7	1	-,?	,D,N 0,60	,0,D,N	0.02	5/21/73
50-255	4	1	22	1	-,?	,D,N 0,60	,0,D,N	0.02	5/23/73

50-255	4	2	11	1	-,?	,D,N	0,60	,0,D,N	0.02	6/23/73
50-255	6	1	7	1	0,0	,D,N	0,60	,0,D,N	0.02	7/26/73
50-255	6	1	7	1	-,?	,D,N	0,60	,0,D,N	0.02	7/31/73
50-255	6	1	7	1	-,?	,D,N	0,60	,0,D,N	0.02	7/31/73
50-255	6	1	4	1	0,0	,D,N	0,60	,0,D,N	0.17	8/18/75
50-255	6	1	7	1	0,0	,D,N	0,60	,0,D,N	0.5	12/ 9/75
50-255	6	1	5	1	-,?	,D,N	0,60	,0,D,N	0.02	1/11/74
50-255	6	1	4	1	-,?	,D,N	0,60	,0,D,N	0.02	3/ 7/74
50-255	6	1	15	1	-,?	,D,N	0,60	,0,D,N	0.02	3/28/74
50-255	6	1	15	1	-,?	,D,N	0,60	,0,D,N	0.02	3/28/74
50-255	6	1	15	1	-,?	,D,N	0,60	,0,D,N	0.02	3/28/74
50-255	6	1	15	1	-,?	,D,N	0,60	,0,D,N	0.02	3/28/74
50-255	6	1	4	1	-,?	,D,N	0,60	,0,D,N	0.02	3/29/74
50-255	6	1	15	1	-,?	,D,N	0,60	,0,D,N	0.02	3/29/74
50-255	6	1	4	1	-,?	,D,N	0,60	,0,D,N	0.02	3/29/74
50-255	6	1	29	1	0,0	,D,N	0,60	,0,D,N	0.5	8/11/73
50-255	6	1	24	1	-,?	,D,N	0,60	,0,D,N	0.02	8/11/73
50-255	6	2	4	1	-,?	,D,N	0,60	,0,D,N	0.02	8/20/73
50-255	6	1	22	1	-,?	,D,N	0,60	,0,D,N	0.02	9/21/73
50-255	6	1	22	1	-,?	,D,N	0,60	,0,D,N	0.02	9/25/73
50-255	6	1	29	1	0,0	,D,N	0,60	,0,D,N	0.02	1/13/72
50-255	4	1	29	1	0,0	,D,N	0,60	,0,D,N	0.02	1/14/72
50-255	4	1	29	1	0,0	,D,N	0,60	,0,D,N	0.02	1/14/72
50-255	4	1	29	1	0,0	,D,N	0,60	,0,D,N	0.5	1/14/72
50-255	4	1	29	1	0,0	,D,N	0,60	,0,D,N	0.02	1/14/72
50-255	4	1	29	1	0,0	,D,N	0,60	,0,D,N	0.5	1/14/72
50-255	4	1	4	1	0,0	,D,N	0,60	,0,D,N	0.5	2/11/72
50-255	4	1	22	1	-,?	,D,N	0,60	,0,D,N	0.02	4/15/72
50-255	4	1	4	1	0,0	,D,N	0,60	,0,D,N	0.02	4/24/72
50-255	4	1	5	1	-,?	,D,N	0,60	,0,D,N	0.02	4/29/72
50-255	4	2	22	1	-,?	,D,N	0,60	,0,D,N	0.02	7/15/72
50-255	4	1	22	1	-,?	,D,N	0,60	,0,D,N	0.02	7/17/72
50-255	4	1	7	1	-,?	,D,N	0,60	,0,D,N	0.02	8/14/72
50-255	4	1	22	1	-,?	,D,N	0,60	,0,D,N	0.02	8/14/72
50-255	4	1	7	1	-,?	,D,N	0,60	,0,D,N	0.02	9/13/72
50-255	4	1	22	1	-,?	,D,N	0,60	,0,D,N	0.02	9/13/72
50-255	4	1	7	1	-,?	,D,N	0,60	,0,D,N	0.02	9/13/72
50-255	4	1	22	1	-,?	,D,N	0,60	,0,D,N	0.02	9/18/72
50-255	4	1	22	1	-,?	,D,N	0,60	,0,D,N	0.02	6/ 6/71
50-255	4	1	22	1	-,?	,D,N	0,60	,0,D,N	0.02	7/ 8/71
50-255	4	1	22	1	-,?	,D,N	0,60	,0,D,N	0.02	7/15/71
50-255	4	1	7	1	0,0	,D,N	0,60	,0,D,N	1.0	8/17/71
50-255	4	1	22	1	-,?	,D,N	0,60	,0,D,N	0.02	8/24/71
50-255	4	1	22	1	-,?	,D,N	0,60	,0,D,N	0.02	8/24/71
50-255	4	1	4	1	0,0	,D,N	0,60	,0,D,N	0.5	9/15/71
50-255	4	1	4	1	0,0	,D,N	0,60	,0,D,N	0.02	11/10/71
50-293	3	1	0	0	0,0	,D,N	-,?	,?,D,N	3.35	2/10/80
50-336	2	1	9	1	-,0	,D,N	-,?	,?,D,N	1.13	8/10/76
50-336	2	1	9	1	-,0	,D,N	-,?	,?,D,N	0.02	8/10/76
50-336	2	1	9	1	-,0	,D,N	-,?	,?,D,N	0.02	8/10/76
50-336	2	1	9	1	-,0	,D,N	-,?	,?,D,N	0.02	8/10/76
50-336	2	1	9	1	-,0	,D,N	-,?	,?,D,N	0.02	8/10/76
50-336	2	1	9	1	-,0	,D,N	-,?	,?,D,N	1.12	8/10/76
50-336	2	1	9	1	-,0	,D,N	-,?	,?,D,N	0.05	8/10/76
50-336	2	1	0	0	-,0	,D,N	-,?	,?,D,N	0.02	5/10/77
50-336	2	1	0	0	-,0	,D,N	-,?	,?,D,N	0.92	5/31/77
50-336	2	1	0	0	-,0	,D,N	-,?	,?,D,N	4.42	8/10/77
50-336	2	1	0	0	-,0	,D,N	-,?	,?,D,N	0.28	12/16/77

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50-155	2	1	15	1 -,0	,D,N -,?	,?,D,N	?	1/25/72
50-155	2	1	15	1 -,0	,D,N -,?	,?,D,N	?	1/25/72
50-155	2	1	15	1 -,0	,D,N -,?	,?,D,N	?	1/25/72
50-155	2	1	15	1 -,0	,D,N -,?	,?,D,N	?	1/25/72
50-155	2	1	15	1 -,0	,D,N -,?	,?,D,N	?	1/25/72
50-155	2	1	15	1 -,0	,D,N -,?	,?,D,N	?	1/25/72
50-155	2	1	15	1 -,0	,D,N -,?	,?,D,N	?	1/25/72
50-155	2	1	15	1 -,0	,D,N -,?	,?,D,N	?	1/25/72
50-155	2	1	15	1 -,0	,D,N -,?	,?,D,N	?	1/25/72
50-155	2	1	15	1 -,0	,D,N -,?	,?,D,N	?	1/25/72
50-155	2	1	15	1 -,0	,D,N -,?	,?,D,N	?	1/25/72
50-155	2	1	15	1 -,0	,D,N -,?	,?,D,N	?	1/25/72
50-029	2	1	5	1 -,0	,D,N -,?	,?,D,N	2.7	6/ 4/63
50-029	2	1	22	1 -,0	,D,N -,?	,?,D,N	0.27	7/10/66
50-029	2	1	4	1 -,0	,D,N -,?	,?,D,N	1.08	6/24/73
50-029	2	1	22	1 -,0	,D,N -,?	,?,D,N	1.02	8/31/73
50-029	2	1	5	1 -,0	,D,N -,?	,?,D,N	1.57	5/13/75
50-029	2	1	4	1 -,0	,D,N -,?	,?,D,N	0.08	12/27/75
50-029	2	1	5	1 -,0	,D,N -,?	,?,D,N	0.11	2/ 2/76
50-271	5	2	4	1 -,0	,D,N -,60	,O,D,N	0.38	5/ 4/72
50-271	5	?	7	1 -,0	,D,Y -,36	,?,I,Y	4380	11/ 8/72
50-271	5	?	7	1 -,0	,D,N -,60,	,O,D,N	11.37	12/27/72
50-271	5	2	4	1 -,0	,D,N -,60	,O,D,N	0.02	3/29/74
50-271	5	2	4	1 -,0	,D,N -,60	,O,D,N	0.02	3/ 1/75
50-271	5	2	9	1 -,0	,D,N -,60	,O,D,N	240	6/ 4/75
50-277	2	1	4	1 -,0	,D,N -,60	,O,D,N	0.02	4/19/74
50-278	2	1	4	1 -,0	,D,N -,60	,O,D,N	0.02	4/19/74
50-277	2	1	22	1 -,0	,D,N -,60	,O,D,N	9.42	7/11/76
50-278	2	1	22	1 -,0	,D,N -,60	,O,D,N	9.42	7/11/76
50-277	2	1	4	1 -,0	,D,N -,60	,O,D,N	8.42	6/ 7/77
50-278	2	1	4	1 -,0	,D,N -,60	,O,D,N	8.42	6/ 7/77
50-277	2	1	13	1 -,0	,D,N -,60	,O,D,N	0.12	7/ 5/77
50-278	2	1	13	1 -,0	,D,N -,60	,O,D,N	0.12	7/ 5/77
50-277	2	1	13	1 -,0	,D,N -,60	,O,D,N	1.62	7/ 5/77
50-278	2	1	13	1 -,0	,D,N -,60	,O,D,N	1.62	7/ 5/77
50-277	2	1	4	1 -,0	,D,N -,60	,O,D,N	1.08	12/20/77
50-278	2	1	4	1 -,0	,D,N -,60	,O,D,N	1.08	12/20/77
50-277	2	1	4	1 -,0	,D,N -,60	,O,D,N	16.83	3/ 5/80
50-278	2	1	4	1 -,0	,D,N -,60	,O,D,N	16.83	3/ 5/80
50-259	8	1	31	1 -,0	,D,N -,60	,O,D,N	72	4/ 3/74
50-260	8	1	31	1 -,0	,D,N -,60	,O,D,N	72	4/ 3/74
50-296	8	1	31	1 -,0	,D,N -,60	,O,D,N	72	4/ 3/74
50-259	8	2	15	1 -,0	,D,N -,60	,O,D,N	0.4	3/ 1/80
50-260	8	2	15	1 -,0	,D,N -,60	,O,D,N	0.4	3/ 1/80
50-296	8	2	15	1 -,0	,D,N -,60	,O,D,N	0.4	3/ 1/80
50-259	8	1	15	1 -,0	,D,N -,60	,O,D,N	48	3/ 1/80
50-260	8	1	15	1 -,0	,D,N -,60	,O,D,N	48	3/ 1/80
50-296	8	1	15	1 -,0	,D,N -,60	,O,D,N	48	3/ 1/80
50-285	7	2	31	1 -,0	,D,N -,60	,O,D,N	24.03	9/25/73

50-285	/	1	14	1	-,344/345K	,D,N	-,60	,0,D,N	8.92	12/20/73
50-285	/	1	0	1	-,0	,D,N	-,60	,0,D,N	0	5/10/74
50-285	/	1	0	1	-,0	,D,N	-,60	,0,D,N	0	5/10/74
50-285	/	1	0	1	-,0	,D,N	-,60	,0,D,N	0	5/18/74
50-285	/	1	0	1	0,345/345K	,D,N	0,60	,0,D,N	0	8/ 8/74
50-285	/	1	31	1	-,344/345K	,D,N	-,60	,0,D,N	0.97	8/13/74
50-285	/	1	4	1	-,0	,D,N	-,60	,0,D,N	0.07	1/29/75
50-285	/	2	9	1	-,0	,D,N	-,60	,0,D,N	0	2/28/75
50-285	/	2	9	1	-,0	,D,N	-,60	,0,D,N	0.12	3/ 1/75
50-285	/	2	9	1	-,0	,D,N	-,60	,0,D,N	0	3/ 1/75
50-285	/	2	9	1	-,0	,D,N	-,60	,0,D,N	0	3/ 1/75
50-285	/	2	9	1	-,0	,D,N	-,60	,0,D,N	?	3/13/75
50-285	/	2	29	1	-,0	,D,N	-,60	,0,D,N	0.08	3/17/75
50-285	/	1	4	1	-,0	,D,N	-,60	,0,D,N	0.2	4/ 7/75
50-285	/	1	0	1	-,0	,D,N	-,60	,0,D,N	0	4/22/75
50-285	/	1	0	1	-,0	,D,N	-,60	,0,D,N	0	6/ 3/75
50-285	/	1	0	1	-,0	,D,N	-,60	,0,D,N	3.45	6/ 3/75
50-285	/	1	0	1	-,0	,D,N	-,60	,0,D,N	0.13	11/ 9/75
50-285	/	1	0	1	-,0	,D,N	-,60	,0,D,N	0.13	12/ 9/75
50-285	/	1	4	1	-,0	,D,N	-,60	,0,D,N	0.08	12/27/75
50-285	/	1	4	1	-,0	,D,N	-,60	,0,D,N	0.12	1/ 7/76
50-285	/	2	15	1	-,300/345K	,D,N	-,60	,0,D,N	0.9	2/21/76
50-285	/	1	9	1	-,0	,D,N	-,60	,0,D,N	4.67	3/29/76
50-285	/	3	4	1	+,360/345K	,D,N	+,60	,0,D,N	1.4	5/28/76
50-285	/	1	9	1	-,0	,D,N	-,60	,0,D,N	0	2/10/77
50-285	/	1	34	1	-,0	,D,N	-,60	,0,D,N	14.58	2/23/77
50-285	/	1	22	1	-,0	,D,N	-,60	,0,D,N	0	4/17/77
50-285	/	1	31	1	-,0	,D,N	-,60	,0,D,N	0.08	6/28/77
50-285	/	1	0	1	-,310/345K	,D,N	-,60	,0,D,N	0	9/ 2/77
50-285	/	1	22	1	-,0	,D,N	-,60	,0,D,N	0	9/ 8/77
50-285	/	1	9	1	-,0	,D,N	-,60	,0,D,N	0	2/ 7/78
50-285	/	1	20	1	-,0	,D,N	-,60	,0,D,N	2.43	2/10/78
50-285	/	1	0	1	-,0	,D,N	-,60	,0,D,N	0	5/19/78
50-285	/	2	0	1	+,353/345K	,D,N	-,60	,0,D,N	0	6/22/78
50-285	/	1	9	1	-,0	,D,N	-,60	,0,D,N	0	10/19/78
50-285	/	1	0	1	-,0	,D,N	-,60	,0,D,N	0	11/20/78
50-285	/	1	34	1	-,322/345K	,D,N	-,60	,0,D,N	22.25	9/ 8/79
50-317	2	1	9	1	-,0	,D,N	-,60	,0,D,N	8.3	2/ 3/76
50-318	2	1	9	1	-,0	,D,N	-,60	,0,D,N	8.3	2/ 3/76
50-317	2	1	4	1	-,0	,D,N	-,60	,0,D,N	4.97	5/18/76
50-318	2	1	4	1	-,0	,D,N	-,60	,0,D,N	4.97	5/18/76
50-317	2	1	4	1	-,0	,D,N	-,60	,0,D,N	3.15	5/18/76
50-318	2	1	4	1	-,0	,D,N	-,60	,0,D,N	3.15	5/18/76
50-317	2	1	4	1	-,0	,D,N	-,60	,0,D,N	4.85	5/21/76
50-318	2	1	4	1	-,0	,D,N	-,60	,0,D,N	4.85	5/21/76
50-317	2	1	4	1	-,0	,D,N	-,60	,0,D,N	0	12/ 2/76
50-318	2	1	4	1	-,0	,D,N	-,60	,0,D,N	0	12/ 2/76
50-317	2	1	29	1	-,0	,D,N	-,60	,0,D,N	70.78	12/14/76
50-318	2	1	29	1	-,0	,D,N	-,60	,0,D,N	70.78	12/14/76
50-317	2	1	34	1	-,0	,D,N	-,60	,0,D,N	5.52	9/ 9/79
50-318	2	1	34	1	-,0	,D,N	-,60	,0,D,N	5.52	9/ 9/79
50-317	2	1	4	1	-,0	,D,N	-,60	,0,D,N	6.78	11/11/79
50-318	2	1	4	1	-,0	,D,N	-,60	,0,D,N	6.78	11/11/79
50-318	2	1	4	1	-,0	,D,N	-,60	,0,D,N	3.88	1/ 8/77
50-317	2	1	4	1	-,0	,D,N	-,60	,0,D,N	3.88	1/ 8/77
50-317	2	1	4	1	-,0	,D,N	-,60	,0,D,N	0.17	11/14/79
50-318	2	1	4	1	-,0	,D,N	-,60	,0,D,N	0.17	11/14/79

50-244	2	1	0	1	-,0	,D,N	-,60	,0,D,N	?	5/17/69
50-244	2	1	4	1	-,0	,D,N	-,60	,0,D,N	?	5/19/69
50-286	3	1	22	1	-,0	,D,N	-,0	,?,D,N	?	6/ 3/80
50-289	2	1	4	4	-,0	,D,N	-,60	,0,D,N	2	5/29/77
50-295	2	1	4	1	-,0	,D,N	-,60	,0,D,N	0.75	3/12/79
50-304	2	1	4	1	-,0	,D,N	-,60	,0,D,N	0.75	3/12/79
50-270	2	1	4	1	-,0	,D,N	-,60	,0,D,N	0.25	12/19/73
50-313	4	1	15	1	-,0	,D,N	-,60	,0,D,N	0.08	2/22/75
50-368	4	1	15	1	-,0	,D,N	-,60	,0,D,N	0.08	2/22/75
50-313	3	2	15	1	-,500/500K	,D,N	-,60	,0,D,N	72	2/22/75
50-368	3	2	15	1	-,500/500K	,D,N	-,60	,0,D,N	72	2/22/75
50-313	4	1	22	1	-,0	,D,N	-,60	,0,D,N	?	12/ 5/75
50-368	4	1	22	1	-,0	,D,N	-,60	,0,D,N	?	12/ 5/75
50-313	4	1	15	1	-,0	,D,N	-,60	,0,D,N	1.7	4/ 7/80
50-368	4	1	15	1	-,0	,D,N	-,60	,0,D,N	1.7	4/ 7/80
50-313	3	1	15	1	-,0	,D,N	-,60	,0,D,N	0.75	4/ 7/80
50-368	3	1	15	1	-,0	,D,N	-,60	,0,D,N	0.75	4/ 7/80
50-259	8	1	15	1	-,0	,D,N	-,60	,0,D,N	?	3/12/80
50-260	8	1	15	1	-,0	,D,N	-,60	,0,D,N	?	3/12/80
50-296	8	1	15	1	-,0	,D,N	-,60	,0,D,N	?	3/12/80
50-346	2	1	4	1	-,0	,D,N	-,60	,?,D,N	?	2/13/79
50-267	2	1	15	1	-,0	,D,N	-,60	,?,D,N	?	1/18/75
50-285	4	1	4	1	0,0	,D,N	0,60	,0,D,N	?	5/16/77
50-286	4	1	20	1	0,0	,D,N	0,60	,0,D,N	?	2/11/79
50-293	3	1	13	1	0,0	,D,N	0,60	,0,D,N	6	8/ 7/79
50-272	2	1	25	1	-,?	,D,N	-,60	,?,D,N	?	5/14/77
50-272	2	1	4	1	-,?	,D,N	-,60	,?,D,N	?	6/26/77
50-305	3	2	4	1	-,0	,D,N	0,60	,0,D,N	0.58	5/18/80
50-280	2	1	4	1	0,0	,D,N	0,60	,0,D,N	0.75	6/ 9/74
50-281	2	1	4	1	0,0	,D,N	0,60	,0,D,N	0.75	6/ 9/74
50-280	3	1	5	1	0,0	,D,N	0,60	,0,D,N	?	11/10/78
50-281	3	1	5	1	0,0	,D,N	0,60	,0,D,N	?	11/10/78
50-334	2	1	?	1	-,0	,D,N	-,60	,?,D,N	?	12/15/76
50-305	3	1	4	1	0,0	,D,N	0,60	,0,D,N	?	11/11/78
50-365	3	2	24	1	-,0	,D,N	-,60	,?,D,N	?	1/17/80
50-272	2	1	5	1	-,0	,D,N	-,60	,?,D,N	?	3/ 3/80

PRINT

50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	32.45	9/ 9/73
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	7.6	10/10/73
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	11.12	10/18/73
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	14.22	5/ 3/73
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	29.47	3/27/73
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	36	1/29/73
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	113.4	1/31/73
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	1.28	12/29/73
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	3.38	12/12/73
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	10	11/10/73
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	4.82	11/11/73
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	4.58	11/20/73
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	4.33	6/21/73
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	6.53	4/27/73
50-261	5	1	4	1	0,0	,D,N	0,60	,0,D,N	3.37	11/22/78
50-261	6	1	4	1	0,0	,D,N	0,60	,0,D,N	4.58	7/23/78
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	1.07	6/13/78
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	6.03	4/20/77
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	2.17	4/20/77
50-261	4	1	4	1	0,0	,D,N	0,60	,0,D,N	13.38	12/ 1/79
50-261	4	1	4	1	0,0	,D,N	0,60	,0,D,N	8	9/10/79
50-261	4	1	4	1	0,0	,D,N	0,60	,0,D,N	9.35	9/24/79
50-261	6	1	4	1	0,0	,D,N	0,60	,0,D,N	7.17	7/ 9/78
50-261	6	1	4	1	0,0	,D,N	0,60	,0,D,N	10.32	7/29/78
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	3.42	10/ 3/77
50-261	8	1	22	1	0,0	,D,N	0,60	,0,D,N	0.02	9/27/77
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	32.52	9/28/77
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	6.77	4/21/77
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	9.67	4/23/77
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	5.1	4/30/77
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	7.52	3/ 2/76
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	3.05	2/25/75
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	11.58	11/27/73
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	13.38	10/13/73
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	2.13	7/ 2/73
50-261	4	1	4	1	0,0	,D,N	0,60	,0,D,N	3.83	1/29/72
50-261	4	1	4	1	0,0	,D,N	0,60	,0,D,N	1.1	1/30/72
50-261	4	1	4	1	0,0	,D,N	0,60	,0,D,N	1.08	1/31/72
50-261	4	1	4	1	0,0	,D,N	0,60	,0,D,N	3.37	11/27/71
50-261	4	1	4	1	0,0	,D,N	0,60	,0,D,N	10.45	7/19/71
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	3.15	10/21/77
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	7.27	4/15/77
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	8.12	4/22/77
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	2.75	6/22/76
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	33.45	11/ 7/73
50-261	6	1	4	1	0,0	,D,N	0,60	,0,D,N	21.75	8/28/78
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	3.23	6/13/78
50-261	7	1	22	1	0,0	,D,N	0,60	,0,D,N	0.02	6/12/76
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	6.6	6/27/76
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	6.37	5/26/76
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	1.58	5/13/76
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	0.03	3/22/76

50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	9.3	3/23/76
50-261	7	1	22	1	0,0	,D,N 0,60	,0,D,N	0.02	6/18/75
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	96.02	10/ 6/74
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	0.1	6/10/74
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	7.33	4/ 3/74
50-261		1	4	1	0,0	,D,N 0,60	,0,D,N	5.27	4/ 4/74
50-261	8	1	4	1	0,0	,D,N 0,60	,0,D,N	0.02	7/12/73
50-261	8	1	4	1	0,0	,D,N 0,60	,0,D,N	17.15	6/10/77
50-261	8	1	4	1	0,0	,D,N 0,60	,0,D,N	3.29	6/21/73
50-261	8	1	4	1	0,0	,D,N 0,60	,0,D,N	12.18	10/11/73
50-261	8	1	4	1	0,0	,D,N 0,60	,0,D,N	9.67	10/25/73
50-261	6	1	4	1	0,0	,D,N 0,60	,0,D,N	7.27	8/22/72
50-261	6	1	4	1	0,0	,D,N 0,60	,0,D,N	9.18	8/28/72
50-261		1	4	1	0,0	,D,N 0,60	,0,D,N	10.63	8/22/71
50-261	4	1	4	1	0,0	,D,N 0,60	,0,D,N	11.57	7/19/71
50-261	3	1	4	1	0,0	,D,N 0,60	,0,D,N	24.02	6/27/71
50-261	4	1	4	1	0,0	,D,N 0,60	,0,D,N	36.15	12/22/79
50-261	4	1	4	1	0,0	,D,N 0,60	,0,D,N	3.45	6/ 5/79
50-261	4	1	4	1	0,0	,D,N 0,60	,0,D,N	0.02	12/30/78
50-261	5	1	4	1	0,0	,D,N 0,60	,0,D,N	0.02	11/ 1/78
50-261	5	1	4	1	0,0	,D,N 0,60	,0,D,N	3.45	10/15/78
50-261	6	1	4	1	0,0	,D,N 0,60	,0,D,N	9.87	8/ 7/78
50-261	6	1	4	1	0,0	,D,N 0,60	,0,D,N	4.12	7/ 5/78
50-261	6	1	4	1	0,0	,D,N 0,60	,0,D,N	2.58	7/24/78
50-261	6	1	4	1	0,0	,D,N 0,60	,0,D,N	1.07	6/29/78
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	0.02	2/ 5/78
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	9.77	2/ 4/78
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	2.48	6/12/78
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	0.02	12/ 1/77
50-261	7	1	7	1	0,0	,D,N 0,60	,0,D,N	0.02	2/ 8/77
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	1.05	12/30/76
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	0.02	10/17/76
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	15.67	6/29/76
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	2.08	11/12/76
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	15.7	10/ 4/76
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	5.83	3/ 7/75
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	25.72	1/ 4/75
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	0.02	1/ 5/75
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	9.05	6/ 9/74
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	13.68	1/20/74
50-261	8	1	4	1	0,0	,D,N 0,60	,0,D,N	3.15	11/16/73
50-261	8	1	4	1	0,0	,D,N 0,60	,0,D,N	12.95	11/23/73
50-261	9	1	4	1	0,0	,D,N 0,60	,0,D,N	11.48	10/ 9/73
50-261	5	1	31	1	0,0	,D,N 0,60	,0,D,N	0.2	7/14/72
50-261	5	1	4	1	0,0	,D,N 0,60	,0,D,N	6.18	7/14/72
50-261	6	1	4	1	0,0	,D,N 0,60	,0,D,N	9.07	7/15/72
50-261	4	1	22	1	0,0	,D,N 0,60	,0,D,N	8.63	5/31/79
50-261	4	1	4	1	0,0	,D,N 0,60	,0,D,N	15.08	3/ 5/79
50-261	4	1	4	1	0,0	,D,N 0,60	,0,D,N	10.43	3/23/79
50-261	4	1	4	1	0,0	,D,N 0,60	,0,D,N	2.13	1/14/79
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	9.82	6/ 2/78
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	5.43	6/ 3/78
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	24	5/ 5/78
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	23.5	5/14/78
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	681.2	4/ 2/78
50-261	7	1	15	1	0,0	,D,N 0,60	,0,D,N	0.02	1/25/78
50-261	8	1	4	1	0,0	,D,N 0,60	,0,D,N	4.9	7/22/77
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	8.03	4/17/77
50-261	8	1	4	1	0,0	,D,N 0,60	,0,D,N	2.67	4/24/77
50-261	5	1	4	1	0,0	,D,N 0,60	,0,D,N	3.78	4/25/77
50-261	7	1	4	1	0,0	,D,N 0,60	,0,D,N	4.37	7/27/75

50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	8.42	9/22/75
50-261	7	1	22	1	0,0	,D,N	0,60	,0,D,N	0.02	2/18/75
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	3.97	11/15/74
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	15.5	6/21/74
50-261	7	1	7	1	0,0	,D,N	0,60	,0,D,N	0.02	7/31/74
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	17	5/29/74
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	0.22	5/30/74
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	20.58	8/25/73
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	23	4/ 1/73
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	6.13	10/14/73
50-261	6	1	4	1	0,0	,D,N	0,60	,0,D,N	10.48	9/13/72
50-261	6	1	4	1	0,0	,D,N	0,60	,0,D,N	13.68	9/29/72
50-261	6	1	4	1	0,0	,D,N	0,60	,0,D,N	2.67	8/ 9/72
50-261	6	1	4	1	0,0	,D,N	0,60	,0,D,N	8.27	8/14/72
50-261	6	1	4	1	0,0	,D,N	0,60	,0,D,N	10.03	8/31/72
50-261	5	1	4	1	0,0	,D,N	0,60	,0,D,N	0.5	4/ 1/72
50-261	5	1	4	1	0,0	,D,N	0,60	,0,D,N	4.45	4/ 3/72
50-261	5	1	22	1	0,0	,D,N	0,60	,0,D,N	0.02	4/18/72
50-261	5	1	22	1	0,0	,D,N	0,60	,0,D,N	0.02	4/12/72
50-261	5	1	4	1	0,0	,D,N	0,60	,0,D,N	10.3	4/25/72
50-261	5	1	4	1	0,0	,D,N	0,60	,0,D,N	21.37	3/31/72
50-261	4	1	4	1	0,0	,D,N	0,60	,0,D,N	17.22	1/13/72
50-2	3	1	22	1	0,0	,D,N	0,60	,0,D,N	0.02	6/27/71
50-261	2	1	4	1	0,0	,D,N	0,60	,0,D,N	10.3	1/12/71
50-261	4	1	4	1	0,0	,D,N	0,60	,0,D,N	7.3	6/18/79
50-261	4	1	7	1	0,0	,D,N	0,60	,0,D,N	0.02	2/ 7/79
50-261	8	1	7	1	0,0	,D,N	0,60	,0,D,N	0.02	5/ 6/77
50-261	8	1	22	1	0,0	,D,N	0,60	,0,D,N	0.02	5/26/77
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	2.03	11/22/76
50-261	7	1	22	1	0,0	,D,N	0,60	,0,D,N	0.02	5/13/76
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	10.38	4/17/75
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	4.9	6/ 4/75
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	11.87	8/13/74
50-261	7	1	22	1	0,0	,D,N	0,60	,0,D,N	0.02	5/30/74
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	3.83	12/13/73
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	13.42	8/12/73
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	7.38	6/30/73
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	3.4	9/28/72
50-261	5	1	4	1	0,0	,D,N	0,60	,0,D,N	4.05	6/ 4/72
50-261	5	1	22	1	0,0	,D,N	0,60	,0,D,N	0.02	6/14/72
50-261	4	1	4	1	0,0	,D,N	0,60	,0,D,N	15.67	1/13/72
50-261	4	1	4	1	0,0	,D,N	0,60	,0,D,N	15.87	10/16/71
50-261	4	1	4	1	0,0	,D,N	0,60	,0,D,N	17.43	10/ 7/71
50-261	3	1	4	1	0,0	,D,N	0,60	,0,D,N	15.87	6/27/71
50-261	2	1	4	1	0,0	,D,N	0,60	,0,D,N	29.4	3/12/71
50-261	2	1	4	1	0,0	,D,N	0,60	,0,D,N	1.83	3/21/71
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	3.7	6/27/78
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	0.92	7/15/77
50-261	8	1	4	1	0,0	,D,N	0,60	,0,D,N	1.97	/22/77
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	6.33	9/18/74
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	7.4	7/16/74
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	0.98	1/15/74
50-261	7	1	4	1	0,0	,D,N	0,60	,0,D,N	60.95	1/23/74
50-261	5	1	4	1	0,0	,D,N	0,60	,0,D,N	8.68	2/23/72

PRINT

50-309	2	1	0	1	-,0	,D,N 0,0	,0,D,N	0.02	2/ 4/72
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	6.42	4/19/72
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	9.57	4/23/72
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	3.68	4/30/72
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	53.93	5/ 8/72
50-309	2	1	5	1	-,0	,D,N 0,0	,0,D,N	0.17	5/30/72
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	57.8	7/10/72
50-309	2	1	22	1	-,0	,D,N 0,0	,0,D,N	0.02	8/27/72
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	4.67	1/16/73
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	7.8	1/17/73
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5.87	1/18/73
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	0.62	1/22/73
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	0.63	1/19/73
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	7.02	1/27/73
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	1.2	2/21/73
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5.02	3/27/73
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5.77	4/24/73
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	6.08	5/13/73
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5	6/ 6/73
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	2.02	6/ 8/73
50-309	2	1	0	1	-,0	,D,N 0,0	,0,D,N	0.02	9/ 6/73
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	4.28	3/ 1/74
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	6.1	3/ 6/74
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5.28	3/ 7/74
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5.83	3/ 8/74
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5.48	3/11/74
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	6.03	3/12/74
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5.27	3/13/74
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5.92	3/14/74
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	6.42	4/ 7/74
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	3.62	5/24/74
50-309	2	1	22	1	-,0	,D,N 0,0	,0,D,N	0.02	7/ 9/74
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	6.15	9/10/74
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	7.42	10/ 3/74
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	4.67	10/ 4/74
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	6.03	1/ 8/75
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	6.33	1/10/75
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	6.2	1/14/75
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5.25	1/15/75
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5.32	1/24/75
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	6.25	1/28/75
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	6.93	1/30/75
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	1.17	1/31/75
50-309	2	1	?	?	-,0	,D,N 0,0	,0,D,N	?	1/31/75
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	6.45	2/ 3/75
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	6.12	2/ 7/75
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5.83	2/10/75
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	2.25	4/ 7/76
50-309	2	1	5	1	-,0	,D,N 0,0	,0,D,N	2.65	5/11/76
50-309	2	1	5	1	-,0	,D,N 0,0	,0,D,N	2.13	5/11/76
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5.82	6/24/76

50-309	2	1	22	1	-,0	,D,N 0,0	,0,D,N	0.02	7/27/76
50-309	2	1	22	1	-,0	,D,N 0,0	,0,D,N	0.02	7/31/76
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	4.43	8/18/76
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	3.95	8/26/76
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	4.53	2/ 8/77
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	4.3	4/27/77
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	1.57	8/ 4/77
50-309	2	1	22	1	-,0	,D,N 0,0	,0,D,N	0.02	8/14/77
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5.13	10/ 1/77
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5.87	11/ 2/77
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	5.45	11/ 3/77
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	6.47	12/ 5/77
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	6.5	12/ 7/77
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	0.02	12/15/77
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	1.07	12/20/77
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	0.27	12/22/77
50-309	2	1	0	1	-,0	,D,N 0,0	,0,D,N	8.3	5/25/78
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	3.87	12/15/78
50-309	2	1	0	1	-,0	,D,N 0,0	,0,D,N	0.02	1/25/79
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	3.88	10/17/79
50-309	2	1	4	1	-,0	,D,N 0,0	,0,D,N	0.8	11/21/79

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  NEWIN*EOF B KEY*
FOUND EOF B KEY
--FILL

   PRINT



        EOF B KEY

COLUMN  CONTENT/SCALE

1/1     POCKET #
2/8     DURATION OF POWER LOSS/HOURS, CAUSE (CODE)
3/17(I) TIME TO PARTIAL RECOVERY/HOURS
4/23(C) TURBINE TRIP (T OR N)
5/25    TIME FROM TURBINE TRIP TO LOSS OF OFFSITE POWER/SECONDS
6/31(C) WAS POWER RESTORED IN LESS THAN OR EQUAL TO TEN MINUTES? (Y OR N)
7/33    IF YES, WAS RESTORATION AUTOMATIC (A) OR MANUAL (M)?
8/35    VOLTAGE INCREASE(+) OR DECREASE(-), EXTREME VOLTAGE/VOLTS, BEFORE (B) OR DURING (D) OUTAGE,
        EQUIPMENT DAMAGE (Y OR N)
9/50(I) FREQUENCY INCREASE (+) OR DECREASE(-), EXTREME VALUE/HZ, MAXIMUM RATE/HZ/SEC, BEFORE (B) OR
        DURING EVENT (D), EQUIPMENT DAMAGE (Y OR N)
10/6/(I) DATE MM/DD/YY
```

50-245	0.05,9	0.05	N		N		0,0	,D,N	0,0	,	0,D,N	8/10/76
50-335	4.6 ,5	?	I	0	N		,0	,D,N	,49	,3.25,D,N		5/16/77
50-250	? ,7	?	I	960	N		,230/240K	,D,N	,59.6	,1.33,D,N		5/16/77
50-250	0.33,4	?	I	0	N		,0	,D,N	,58.6,	?,D,N		4/25/74
50-251	0.33,4	?	I	0	N		,0	,D,N	,58.6,	?,D,N		4/25/74
50-250	0.93,5	0.18	I	0	N		,168/240K	,D,N	,54.5,	5,D,N		6/28/74
50-251	0.93,5	0.18	I	0	N		,168/240K	,D,N	,54.5,	5,D,N		6/28/74
50-250	? ,1	?	I	0	?		,0	,D,N	,0	,	?,D,N	4/ 3/73
50-250	? ,1	0.17	I	0	Y	?	,0	,D,N	,0	,	?,D,N	4/ 4/73
50-250	? ,3	?	I	-60	?		,0	,D,N	,58.9,	?,D,N		3/ 1/74
50-251	? ,2	?	I	0	?		,0	,D,N	,58.9,	?,D,N		3/ 1/74
50-335	0.14,9	?	I	0	Y	?	,0	,D,N	,0	,	?,D,N	5/14/78
50-250	8.77,9	7.23	N	0	N		,0	,B,N	,59	, 0.5,B,N		4/ 4/79
50-251	8.77,9	7.23	I	0	N		,0	,B,N	,59	, 0.5,B,N		4/ 4/79
50-250	? ,10	?	I	0	?		,0	,D,N	,0	,	?,D,N	8/ 3/79
50-251	? ,1	?	I	0	?		,0	,D,N	,0	,	?,D,N	8/ 3/79
50-244	1.28,12	0.67	I	0	N	M	,0	,D,N	,59.8,	?,D,N		10/21/73
50-266	6.37,15	?	N		N		,0	,D,N	,0	,	?,D,N	2/ 5/71
50-301	6.37,15	?	N		N		,0	,D,N	,0	,	?,D,N	2/ 5/71
50-266	? ,4	?	N		Y	M	,0	,B,N	,0	,	?,D,N	4/27/74
50-301	? ,4	?	N		Y	M	,0	,D,N	,0	,	?,D,N	4/27/74
50-266	5.42,13	0.92	N		N		,0	,D,N	,0	,	?,D,N	10/13/73
50-301	5.42,13	0.92	N		N		,0	,D,N	,0	,	?,D,N	10/13/73
50-348	4.98,7	0.90	N		N		,0	,D,N	,0	,	?,D,N	9/16/77
50-354	0.28,24	?	I	0	N		,0	,D,N	,55	,	?,D,N	7/28/78
50-286	6.47,32	?	I	3300	N		,?	,D,N	,?	,	?,D,N	7/13/77
50-220	5 ,33	0.17	N		Y	A	0,0	,D,N	0,0	,	0,D,N	11/17/73
50-293	9.67,15	2.67	I	0	N		,0	,D,N	,0	,	?,D,N	5/10/77
50-293	19.51,15	2.12	N		N		,0	,D,N	,0	,	?,D,N	2/ 6/78
50-206	4.98,33	?	N		?		,0	,D,N	,0	,	?,D,N	6/ 6/73
50-219	? ,4	?	I	0	N		,0	,D,N	,0	,	?,D,N	9/10/73
50-10	13.67,31	?	I	-90	N		,0	,D,N	,0	,	?,D,N	11/12/65
50-213	0.93,4	0.48	N		N		0,0	,D,N	0,0	,	0,D,N	4/27/68
50-213	1.93,4	?	N		N		0,0	,D,N	0,0	,	0,D,N	7/15/69
50-213	0.02,22	0.02	N		Y	A	0,0	,D,N	0,0	,	0,D,N	7/19/72
50-213	1.75,9	0.33	N		N		0,0	,D,N	0,0	,	0,D,N	1/19/74
50-213	0.28,0	0.27	N		N		0,0	,D,N	0,0	,	0,D,N	6/26/76
50-245	1.13,9	1.13	N		N		0,0	,D,N	0,0	,	0,D,N	8/10/76
50-245	0.02,9	0.02	N		N		0,0	,D,N	0,0	,	0,D,N	8/10/76
50-245	0.02,9	0.02	N		N		0,0	,D,N	0,0	,	0,D,N	8/10/76
50-245	0.02,9	0.02	N		N		0,0	,D,N	0,0	,	0,D,N	8/10/76
50-245	1.12,9	1.12	N		N		0,0	,D,N	0,0	,	0,D,N	8/10/76
50-245	28.88,9	11.48	N		N		0,0	,D,N	0,0	,	0,D,N	8/10/76
50-409	0.23,4	0.23	N	0	N		0,0	,D,N	0,0	,	0,D,N	1/20/71
50-409	1.02,24	?	I	-?	N		0,0	,D,N	0,0	,	0,D,N	3/24/71

```
50-409 0.55,4    ?      I  ??    N    0,0        ,D,N 0,0    ,    0,D,N  12/21/79
50-409 0.05,4    0.05   N        Y M  0,0        ,D,N 0,0    ,    0,D,N   9/17/74
50-409 1.85,29   ?      I  ??    N    0,0        ,D,N 0,0    ,    0,D,N  10/23/74
50-409 0.17,4    ?      N        Y M  0,0        ,D,N 0,0    ,    0,D,N   5/12/75
50-409 5.58,9    ?      N        N    0,0        ,D,N 0,0    ,    0,D,N   7/ 5/75
50-324 0.07,?    ?      N        N    0,0        ,D,N 0,0    ,    0,D,N   3/26/75
50-255 0.93,5    0.93   N        N    0,0        ,D,N -,0    ,    ?,D,N   9/ 2/71
50-255 4.75,0    ?      I  0     N    -,0        ,D,N -,0    ,    ?,D,N   9/24/77
50-255 5.5,0     ?      I  0     N    -,0        ,D,N -,0    ,    ?,D,N  11/25/77
50-255 1.5,0     ?      I  0     N    -,0        ,D,N -,0    ,    ?,D,N  12/11/77
50-336 27.77,9   24.62  N        N    -,0        ,D,N 0,60   ,    ?,D,N   8/10/76
50-155 0.82,4    ?      I  0     ?    -,0        ,D,N -,0    ,    ?,D,N   1/25/72
50-317 ?,5       ?      ?        ?    -,0        ,D,N -,?    ,    ?,D,N  12/20/73
50-298 ?,4       ?      I  0     ?    -,0        ,D,N -,?    ,    ?,D,N   2/21/76
50-285 ?,5       ?      ?        ?    -,0        ,D,N -,?    ,    ?,D,N   3/13/75
50-321 ?,4       ?      ?        ?    -,0        ,D,N -,?    ,    ?,D,N   9/28/77
50-133 499.2,5   0.3    ?        ?    -,0        ,D,N -,?    ,    ?,D,N   7/17/70
50-133 28,51     0.23   ?        ?    -,0        ,D,N -,?    ,    ?,D,N  11/27/70
50-003 0.92,23   ?      ?        ?    -,0        ,D,N -,?    ,    ?,D,N   7/20/72
50-286 ?,22      ?      ?        ?    -,0        ,D,N -,?    ,    ?,D,N   5/ 6/77
50-247 0.92,23   ?      ?        ?    -,0        ,D,N -,?    ,    ?,D,N   7/20/72
50-219 ?,4       ?      ?        ?    -,0        ,D,N -,?    ,    ?,D,N   9/ 8/73
50-255 0.5,4     ?      ?        ?    -,0        ,D,N -,?    ,    ?,D,N  10/17/74
50-293 ?,22      ?      ?        ?    -,0        ,D,N -,?    ,    ?,D,N   4/15/74
50-293 ?,25      ?      I  ?     ?    -,0        ,D,N -,?    ,    ?,D,N   5/ 1/77
50-266 ?,13      ?      ?        ?    -,0        ,D,N -,?    ,    ?,D,N  10/13/73
50-206 ?,4       ?      ?        ?    -,0        ,D,N -,?    ,    ?,D,N   6/ 7/73
50-251 ?,7       ?      N        N    -,230/238K,D,N -,59.6,1.33,D,N   5/16/77
50-251 ?,1       ?      ?        ?    -,0        ,D,N -,0    ,    ?,D,N   4/ 3/73
50-251 ?,1       0.17   ?        Y ?  -,0        ,D,N -,0    ,    ?,D,N   4/ 4/73
50-316 0.67,7    ?      I -300   N    -,0        ,D,N -,?    ,    ?,D,N   2/19/80
50-029 4.18,7    0.55   N  0     N    -,107/115K,D,N -,54.0,0.11,D,N  11/ 9/65
50-285 1.83,7    0      I  0     N    -,0        ,D,N -,60   ,    0,D,N   8/22/77
50-317 11.2,35   0.27   I  -?    N    -,0        ,D,N -,60   ,    0,D,N   4/11/78
50-318 11.2,3    0.27   I  -?    N    -,0        ,D,N -,60   ,    0,D,N   4/11/78
50-317 5.83,4    ?      I  -?    N    -,0        ,D,N -,60   ,    0,D,N   4/13/78
50-318 5.83,4    ?      I  -?    N    -,0        ,D,N -,60   ,    0,D,N   4/13/78
50-333 0,4       0      N  -     Y A  -,115/115K,D,N -,60   ,    0,D,N  10/ 4/78
50-333 0.05,?    0.05   N  -     Y M  -,115/115K,D,N -,60   ,    0,D,N   3/27/79
50-244 0.5,13    ?      N  +     N    0,0        ,D,N 0,60   ,    0,D,N   3/ 4/71
50-244 ?,13      ?      ?        ?    0,0        ,D,N 0,60   ,    0,D,N  12/ 5/68
50-206 0.07,4    0.07   N  -     Y M  0,0        ,D,N 0,60   ,    0,D,N   4/22/80
50-247 14.75,22  2.42   I  +  1  N M  -,0        ,D,N -,0    ,    ?,D,N   6/ 3/80
50-3   14.75,22  2.42   N  -  -  N M  -,0        ,D,N -,0    ,    ?,D,N   6/ 3/80
50-309 0.02,24   0.02   ?        Y M  -,0        ,D,N -,0    ,    ?,D,N   8/31/78
50-269 1,4       ?      ?        ?    -,0        ,D,N -,60   ,    0,D,N   1/ 4/74
50-270 1,4       ?      ?        ?    -,0        ,D,N -,60   ,    0,D,N   1/ 4/74
50-287 1,4       ?      ?        ?    -,0        ,D,N -,60   ,    0,D,N   1/ 4/74
50-313 9.32,4    ?      I  0     N    -,?        ,D,N -,?    ,    ?,D,N   4/ 7/80
50-368 0.32,4    ?      I  0     N    -,?        ,D,N -,?    ,    ?,D,N   4/ 7/80
50-259 ?,4       ?      I  -  ?  ?    0,0        ,D,N 0,60   ,    0,D,N  11/10/73
50-260 ?,4       ?      I  -  ?  ?    0,0        ,D,N 0,60   ,    0,D,N  11/10/73
50-296 ?,4       ?      I  -  ?  ?    0,0        ,D,N 0,60   ,    0,D,N  11/10/73
50-286 ?,22      ?      N        N    -,0        ,D,N -,?    ,    ?,D,N   7/13/77
50-206 0.07,4    0.07   N        N    0,0        ,D,N 0,60   ,    0,D,N   4/22/80
50-334 ?,24      ?      I  240   ?    -,0        ,D,N -,60   ,    ?,D,N   7/28/78
50-409 ?,4       ?      I        ?    -,0        ,D,N 0,60   ,    0,D,N   8/17/72
50-255 ?,?       ?      ?        ?    -,0        ,D,N -,60   ,    ?,D,N   9/27/77
50-271 ?,24      ?      I        ?    -,0        ,D,N -,60   ,    ?,D,N  12/27/72
50-305 158.7,24  16.33  I  0     N    -,0        ,D,N -,60   ,    ?,D,N   1/17/80
```

APPENDIX B
RESULTS

```
PRINT
                                DATA SUMMARY FOR  9/ 6/80

TOTAL NUMBER OF REPORTED EVENTS
      LOF A14  =  244
      LOF AA10 =  166
      LOF AB14 =  142
      LOF AC1  =  167
      LOF AD1  =   72
      LOF B35  =  105
           *   =  206
                 ----
        TOTAL  = 1102

RATIO OF TOTAL LOSS TO PARTIAL LOSS   = 10.53 %
RATIO OF TOTAL LOSSES TO ALL EVENTS   =  9.53 %
RATIO OF PARTIAL LOSSES TO ALL EVENTS = 90.47 %

TRIP EVENT DISTRIBUTION

      7 =   6          11 =   0          28 =  2
      0 = 141          12 =   4          29 = 16
      1 =   5          13 =  32          31 = 19
      2 =   1          14 =   0          32 =  1
      3 =   2          15 =  90          33 =  2
      4 = 352          20 =   9          34 = 26
      5 =  29          22 = 173          35 =  2
      7 =  48          23 =   4          36 =  6
      9 = 101          24 =   9          42 =  5
     10 =   1          25 =  16

TOTAL LOSS OF OFFSITE POWER

      MAXIMUM HOURS = 28.88
      MINIMUM HOURS = 0.0
               MEAN = 3.6
              SIGMA = 5.71
                  N = 75

TIME TO PARTIAL RECOVERY

      MAXIMUM HOURS = 24.62
      MINIMUM HOURS = 0.0
               MEAN = 2.08
              SIGMA = 4.78
                  N = 42

PARTIAL LOSS OF OFFSITE POWER FOR A TYPE DATA AND TIME TO RECOVERY ON B TYPE DATA

      MAXIMUM HOURS = 4380
      MINIMUM HOURS = 0 (BREAKER CYCLE TIME)
               MEAN = 10.66
              SIGMA = 141.57
                  N = 993
```

FRACTION REMAINING VS. TIME TO RESTORE

MEAN - 3 SIGMA	MEAN	MEAN + 3 SIGMA	% REMAINING
0	16.17	75.18	88
0	6.64	127.91	86
0	1.85	13.93	83
0	4.93	22.94	80
0	4.14	53.67	75
0	3.14	26.84	71
0	4.01	26.44	67
0	10.7	38.6	57
0	6.64	58.5	50
0	1.51	7.69	43
0	60.11	371.69	40
0	10.16	82.94	33
0.48	0.48	0.48	20
0	3.6	20.72	00.00

NO CORRELATION FOR Y F(X) !!

DATA FOR LIGHTENING STRIKES

MAXIMUM HOURS = 48.93
MINIMUM HOURS = 0
MEAN = 0.78
SIGMA = 4.29
N = 163

VOLTAGE CHANGE (%)

MAXIMUM = 417.39
MINIMUM = -100
MEAN = -16.19
SIGMA = 29.05
N = 24

MINIMUM FREQUENCY (HZ)

MAXIMUM = 60
MINIMUM = 36
MEAN = 56.75
SIGMA = 5.55
N = 20

RATE OF FREQUENCY DECAY (HZ/SEC)

MINIMUM = 0
MAXIMUM = 5
MEAN = 1.31
SIGMA = 1.8
N = 13

TABLE 4
FAILURE MAP

	307	?	0	1	2	3	4	5	7	9	10	12	13	15	20	22	23	24	25	28	29	31	32	33	34	35	36	42
3 INDIAN POINT 1	4															2	2											
10 DRESDEN 1	107		24				7		4	18		1	3	12	1	23			2			5			5		1	1
29 YANKEE ROWE	9						2	3	2							2												
133 HUMBOLDT BAY	4							2														2						
155 BIG ROCK POINT	14						2							12														
206 SAN ONOFRE 1	83		15				26	1	6	4			2			4			8		2	5		7	2			1
213 HADDAM NECK	48		15				6		3	3			1			19		1										
219 OYSTER CREEK	21						10			1			2	1		6												1
220 NINE MILE POINT	2																							2				
237 DRESDEN 2	103		24				7		4	18		1	3	12	1	23			2			1			5		1	1
244 GINNA	9		1				1			1		2	4															
245 MILLSTONE 1	27		2						1	15			1		1	5									2			
247 INDIAN POINT 2	4															2	2											
249 DRESDEN 3	103		24				7		4	18		1	3	12	1	23			2			1			5		1	1
250 TURKEY POINT 3	60			14		7	7	7	7	11	7																	
251 TURKEY POINT 4	66			27	7		7	7	7	11																		
254 QUAD CITIES 1	5						1	3									1											
255 PALISADES	171	6	20				27	12	15					11		31		1			6							
259 BROWNS FERRY 1	13						8							4								1						
260 BROWNS FERRY 2	13						8							4								1						
261 H B ROBINSON 2	167		4				148						1	1		12						1						
263 MONTICELLO	7						4	1	1							1												
265 QUAD CITIES 2	5						1	3									1											
266 POINT BEACH 1	9						2						5	2														
267 FT ST VRAIN	1													1														
269 OCONEE 1	8						8																					
270 OCONEE 2	3						3																					
271 VERMONT YANKEE	15						6		2	2								5										
272 SALEM 1	8						4	1											3									
277 PEACH BOTTOM 2	7						4						2			1												
278 PEACH BOTTOM 3	7						4						2			1												
280 SURRY 1	2						1	1																				
281 SURRY 2	2						1	1																				
282 PRAIRIE ISLAND 1	4						2									2												
285 FT. CALHOUN	63		14				7	7	7	14				2	1	2					2	4			3			
286 INDIAN POINT 3	17						1	1							7	4							4					
287 OCONEE 3	2						2																					
289 THREE MILE ISL 1	1						1																					
293 PILGRIM 1	64		8				1		4	5			5	11	3	14			5			2			2	1	3	
295 ZION 1	1						1																					
296 BROWNS FERRY 3	13						8							4								1						
298 COOPER	9						5							4														
301 POINT BEACH 2	7						2						3	2														
302 CRYSTAL RIVER 3	0																											
304 ZION 2	1						1																					
305 KEWAUNEE	8						3											5										
306 PRAIRIE ISLAND 2	4						2									2												
309 MAINE YANKEE	74	1	4				59	3								5		2										
313 ARKANSAS ONE 1	10						4							5		1												
315 D. C. COOK 1	4							1												1	1	1						
316 D. C. COOK 2	6							1	2											1	1	1						
317 CALVERT CLIFFS 1	16						9	2		1											1				2	1		
318 CALVERT CLIFFS 2	14					2	9			1											1				1			
321 E. I. HATCH 1	2						2																					
324 BRUNSWICK 2	2	2																										
331 DUANE ARNOLD	0																											
333 FITZPATRICK	4	2					2																					
334 BEAVER VALLEY 1	8	1					2		1									4										
335 ST. LUCIE 1	4							2		2																		

336 MILLSTONE 2	13		4							9																			
338 NORTH ANNA 1	0																												
314 TROJAN	4					3								1															
346 DAVIS BESSE	1					1																							
348 OAKLEY 1	2	2																											
368 ARKANSAS ONE 2	7					1							5		1														
409 LA CROSSE	16					10				2							2			2									
TOTAL	1507	14	141	41	7	9	450	59	70	136	7	5	37	105	16	186	6	20	22	9	17	26	4	2	26	2	6	5	

FAILURE RATE 9/ 6/80 (BASED ON 6/ 3/80 DATA CUTOFF)

DOC	AGE	TOT	0	MISC	3	4	5	7	9	13	15	20	22	23	24	25
3	7.87	0.25											0.13	0.13		
10	13.56	1.97	0.44	0.06		0.13		0.07	0.33	0.06	0.22	0.02	0.42			0.04
29	16.98	0.27				0.06	0.09	0.06						0.06		
133	9.54	0.21					0.1									
155	8.35	0.84				0.12					0.72					
206	12.37	0.96	0.17	0.09		0.3	0.01	0.07	0.05	0.02			0.05			0.09
213	12.1	1.98	0.62			0.25		0.12	0.12	0.04			0.79		0.04	
219	12.25	0.57		0.03		0.27			0.03	0.05	0.03		0.16			
220	6.54	0.15		0.15												
237	6.25	2.35	0.55	0.06		0.16		0.09	0.41	0.07	0.27	0.02	0.53			0.05
244	11.5	0.39	0.04	0.09		0.04			0.04	0.17						
245	8.94	1.51	0.11					0.06	0.84	0.06		0.06	0.28			
247	7.87	0.25											0.13	0.13		
249	6.26	2.35	0.55	0.06		0.16		0.08	0.41	0.07	0.27	0.02	0.52			0.05
250	6.26	1.37		0.48	0.16	0.16	0.16	0.16	0.25							
251	6.26	1.51		0.78		0.16	0.16	0.16	0.25							
254	4.77	0.26				0.05	0.16								0.05	
255	8.91	3.62	0.42			0.57	0.25	0.32			0.23		0.66			0.02
259	6.56	0.25				0.15					0.08					
260	6.56	0.25				0.15					0.08					
261	9.39	2.74	0.07			2.42				0.02	0.02		0.2			
263	9.21	0.38				0.22	0.05	0.05					0.05			
265	4.77	0.26				0.05	0.16							0.21		
266	9.32	0.48				0.11				0.27	0.11					
267	5.37	0.09									0.09					
269	6.41	0.62				0.62										
270	6.54	0.23				0.23										
271	8.09	0.37				0.15		0.05	0.05						0.12	
272	3.09	1.29				0.65	0.16									0.49
277	6.05	0.58				0.33				0.17			0.08			
278	6.05	0.58				0.33					0.17			0.08		
280	5.98	0.17				0.08	0.08									
281	5.98	0.17				0.08	0.08									
282	3.16	0.63				0.32							0.32			
285	6.76	1.33	0.3			0.15	0.15	0.15	0.3		0.04	0.02	0.04			
286	2.89	1.47				0.09	0.09					0.61	0.35			
287	6.41	0.16				0.16										
289	3.01	0.17				0.17										
293	8.29	2.57	0.32	0.2		0.04		0.16	0.2	0.2	0.44	0.12	0.56			0.2
295	1.23	0.41				0.41										
296	6.56	0.25				0.15					0.08					
298	4.28	0.42				0.23					0.19					
301	9.32	0.38				0.11				0.16	0.11					
302		0.														
304	1.23	0.41				0.41										
305	1.56	1.71				0.64									1.07	
306	3.16	0.63				0.32							0.32			
309	8.33	4.44	0.24			3.54	0.18						0.3		0.12	
313	5.28	0.47				0.19					0.24		0.05			
315	5.29	0.38		0.69			0.09									
316	5.29	0.57		0.09			0.09	0.19								

317	6.45	1.24		0.08		0.7	0.16		0.08							
318	4.34	1.61			0.23	1.04			0.12							
321	2.68	0.37				0.37										
324	5.19	0.19														
331		0.														
333	1.67	1.2				0.6										
334	3.47	1.15				0.29		0.14						0.58		
335	3.05	0.66					0.33		0.33							
336	4.12	1.58	0.49						1.09							
338		0														
344	4.13	0.48				0.36						0.12				
346	0.23	2.17				2.17										
348	2.71	0.37														
368	5.28	0.33				0.05					0.24		0.05			
409	9.37	0.85				0.53			0.11							0.11
MEAN = M		0.88	0.07	0.03	0.01	0.32	0.04	0.03	0.08	0.02	0.06	0.02	0.09	0.01	0.03	0.02
SIGMA = S		0.89	0.15	0.12	0.03	0.58	0.07	0.05	0.19	0.06	0.12	0.08	0.18	0.02	0.15	0.06

N = 66

DOC	29	31	32	34	Y
5					
10		0.09		0.09	
29					
133		0.1			
195					
206	0.02	0.06		0.02	
213					
219					
220					
237		0.02		0.11	
244					
245				0.11	
247					
249		0.02		0.11	
250					
251					
254					
255	0.13			0.13	
259		0.02			
260		0.02			
261		0.02			
263					
265					
266					
269					
270					
271					
272					
277					
278					
280					
281					
282					
285	0.04	0.08		0.06	
286			0.35		
287					
289					
293		0.08		0.08	
295					
296		0.02			

```
298
301
302
304
305
306
309                         0.06
313
315 0.09 0.09
316 0.09 0.09
317       0.08       0.08
318       0.12       0.12
321
324                         0.19
331
333                         0.6
334                         0.14
335
336
338
344
348                         0.37
368
409 0.11
M*= 0.01 0.01 0.01 0.01 0.02
S = 0.02 0.03 0.04 0.04 0.09
```

PROBABILITY OF TOTAL LOSS = (1102/400.69) X 0.0953 = 0.26 / REACTOR YEAR

VALUE > MEAN + 3 SIGMA

TOTAL (>3.55)	ITEM 13 (>0.2)	ITEM 31 (>0.11)
255	266	318
309	293	
ITEM 0 (>0.53)	ITEM 15 (>0.42)	ITEM 32 (>0.13)
213	155	286
237	293	
249	ITEM 20 (>0.25)	ITEM 34 (>0.12)
	286	317
MISC (>0.38)	ITEM 22 (>0.63)	ITEM ? (>0.29)
250	213	333
251	255	348
ITEM 3 (>0.11)	ITEM 23 (>0.08)	
250	3	
318	247	
	265	
	278	
ITEM 4 (>2.05)	ITEM 24 (>0.48)	
261	305	
309	334	
346		
ITEM 5 (>0.25)	ITEM 25 (>0.21)	
255	272	
335		

```
ITEM 7 (-0.21)          ITEM 29 (-0.08)
255                     255
ITEM 9 (-0.65)          315
245                     316
336

RANK  1

255 = 5 (101,5,7,22,29)
213 = 2 (0,22)
250 = 2 (MISC,3)
286 = 2 (20,42)
293 = 2 (13,15)
309 = 2 (101,4)
310 = 2 (3,31)
--NEWDATE*1 OF RATE 27*
--FLUSH

END OF FILE
```