THE A.P.R.O. BULLETIN

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OBJECT OVER SCRANTON, PENNA.

Space News

Dr. J. Allen Hynek, former scientific advisor to the Air Force's Project Bluebook and Head of the Lindheimer Observatory at Northwestern University, has informed us that personnel at the Corralitos Observatory, Las Cruces, New Mexico, were tracking and photographing Apollo 13 at the time that the explosion occurred in the service module. The people manning the telescope and camera at first merely thought that the spaceship had brightened momentarily for some reason. Later, however, they learned that an explosion had occurred and notified Mission Control at Houston. Texas. A representative of Mission Control rushed to the observatory and collected the film. The film is still with the Houston group although prints have been forwarded to Corralitos. The film may be very important in helping NASA scientists to determine the precise cause of the failure of the service module.

Although the APRO Bulletin generally confines its contents to UFO-connected subjects, it was felt that because of the likelihood that someone might attempt to connect the service module explosion with UFO's, it should be pointed out that from the information so far available, the evidence indicates an internal (in the service module) cause.

THIS ISSUE

UFO Reports were kept to a minimum in this issue in order to accommodate the study accomplished by Mr. Paul Smith which relates to UFOs and power failures, to be found elsewhere in the Bulletin.

NEXT ISSUE:

Interesting new information about the Ubatuba magnesium and the new physical evidence case.

Analysis of Conrad Space Photos

By DR. JAMES HARDER

Dr. Harder is Professor of Engineering at the University of California at Berkeley and a consultant in engineering for APRO.

The thousand-odd page Condon Report ("Scientific Study of Unidentified Flying Objects") contains an enormous mass of material that most readers will find to be difficult and tedious; however, buried under this mass of data are many provocative and interesting bits of information. It is almost as if the designers of the report had intended to produce a tedium that would carry the unwary reader, by its momentum, past the evidence that would tend to undermine the conclusions they had presented in Section I.

One such bit of information is contained on pages 198-200 of the Bantam edition in a chapter written by Professor Franklin Roach on "Visual Observations Made by U.S. Astronauts." The sighting was made by Conrad, who had a far visual acuity as measured before the flight of 20/15, and after the flight of 20/12.5 (page 192). The following paragraphs are quoted from the text (page 198):

PROTON III

An interesting example of an unexpected sighting of another space-craft was made by the Gemini 11 astronauts. Quoting from the transcript (GT-11, tape 133, page 1):

We had a wingman flying wing on us going into sunset here, off to my left. A large object that was tumbling at about 1 rps and we flew—we had him in sight, I say fairly close to us, I don't know, it could depend on how big he is and I guess he could have been anything from our ELSS* to something else. We took pictures of it.

The identification of the sighting (See Analysis — Page Three)

The following report was investigated and submitted to Headquarters by Field Investigator Hal Redner of Livingston, New Jersey. The Lorenzens had the pleasure of visiting with Mr. Redner in early March when he was on a business trip which brought him to Arizona.

At 8:15 p.m. on the night of Saturday, March 21, Sgt. Charles Reina and Patrolman Al Sames of the Scranton Police Department, were on duty when Sames called attention to an unusual appearing light in the east. The light was surrounded by an orange glow. Reina's first reaction was that it was merely the light of an airplane and said so. But Sames pointed out that it was not moving, whereupon Reina took a second look and realized that the light was stationary. The patrol car had passed Meadow Brook bridge and proceeded just about 20 feet beyond it when Sames stopped the car so that they could watch it. The object at that time was at about 45 degrees elevation. and had an apparent diameter of about one-fourth that of the full moon. Reina got out of the car and Sames remained in his seat behind the wheel, the engine running. Reina said later that he felt that the object at that time was over the railroad tracks east of them.

Shortly after the patrol car was stopped, the object began to move up and away from them until it was even with the crest of a hill, then it stopped. Sgt. Reina called a car in the Providence section of Scranton and asked if the light was visible from their location but because the patrolman in the car was located in a valley, his view was cut off by surrounding hills. A second car was called, but they were not able to catch sight of the light either.

At this point, the object began to move to the south and Reina obtained Patrolman Richard Heier on the radio who was stationed at Mountain Lake in the East Mountain Section, because he got the impression that the light

(See Scranton — Page Three)

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Newswires, newspapers, radio and television stations may quote up to 250 words from this publication, provided that the Aerial Phenomena Research Organization, Inc. (or APRO), Tucson, Arizona, is given as the source. Written permission of the Editor must be obtained for quotes in excess of 250 words.

Note:

Although it is the policy of APRO to answer all mail, a stamped, selfaddressed envelope will both speed replies and maintain a greater proportion of funds for research.

The Midwest Conference

Since the January-February Bulletin was mailed, the following additional information has been obtained pertaining to the Midwest UFO Conference to be held at the Olin Hall of Science at Bradley University in Peoria, Illinois on the 13th of June 1970. The conference is sponsored by the Aerial Phenomena Club of Central Illinois.

Speakers will be: Dr. Allen Utke, Associate Professor of Chemistry, Wisconsin State University, Oshkosh, Wisconsin, and Consultant in Chemistry to APRO, will be the morning speaker and the title of his talk will be "UFOs and the Problem of Scientific Evidence." Mrs. Lorenzen, Secretary of APRO, will speak on "UFOs 1970 — An Up-to-Date Report" at the afternoon session. She will deal with new findings related to the Ubatuba Magnesium, the artifact recovered in Arizona in February and an analysis of UFO activity in 1969.

At the evening session Dr. J. Allen Hynek, former consultant to Project Bluebook and Chief of Lindheimer Observatory, Northwestern University, will deliver his talk: "UFOs and the 70s—A Positive Program."

In addition to the above-named speakers, Mr. Ted Phillips, Jr. of Sedalia, Missouri, an employee of the Missouri Highway Department and APRO Field Investigator, will speak and show slides related to the subject: "Burned Circles and Saucer Nests: What Is Their Significance?" Mr. Leonard W. Sturm, electrical engineer and APRO Field Investigator who is employed with the Illinois Power Company at Decatur, Illinois, will discuss "Electro-Magnetic Effects Associated with UFOs."

The other featured speaker will be Mr. John F. Schuessler, Senior Engineer at McDonnell-Douglas Astronautics of St. Louis, Missouri. He will present "The UFO, Just Beyond the State - of - the - Art." Mr. Schuessler served as life support engineer on the Gemini Project and is currently responsible for environmental condi-

tions within the orbital workshop space station being constructed by McDonnell-Douglas.

The fee for the entire conference including all speakers and luncheon, is \$6.00. Admission for the single sessions (morning, afternoon, evening) is \$1.50 each, or \$3.00 for all three sessions

Advance reservations to include the luncheon must be made before June 6, 1970.

We would like to urge all APRO members within a reasonable distance of Peoria to attend. Mrs. Lorenzen will be very happy to meet the many people with whom she has worked and corresponded for so many years.

Make your reservations now! Advance reservations can be made by writing to the MIDWEST UFO CONFERENCE, 726 N. St. Anthony Place, Peoria, Illinois 61604.

APRO Illinois Section Dissolved

On the 23rd of April 1970 the Board of Directors of APRO moved to endorse the growing success of APRO's Field Investigators Network by dissolving the APRO Illinois Section. With Field Investigators reporting directly to APRO Headquarters, the Section as such had become largely redundant and it was therefore decided to discontinue it. Influencing the timing of this decision were the facts that former co-chairman Robert Achzehner had recently undertaken a time-consuming manufacturing venture and former co-chairman Walter Andrus had become more and more involved in another organization. Both will continue as Field Investigators. The Staff urges all Illinois members to submit reports and communications directly to APRO Headquarters in Tucson.

New APRO Zip Code

The Post Office Department in Tucson has designated a new Zip Code for the area in which the APRO offices are located. It is now 85712, not 85716. The rest of APRO's address remains unchanged.

The editor takes this opportunity to request all members who write to APRO on any subject to print their full address including Zip Code.

Send Address Changes!

Scanton —

(Continued from Page One)

was over the Number Five reservoir there. Heier viewed the light also. When the object moved from its initial position east of Sgt. Reina up and away to the crest of the hill, it gave the appearance of about one-eighth the size of a full moon and when it moved south it became even smaller. After its move to the south it stopped again, then turned east. Reina turned on the rotating red light on top of the patrol car and the object moved toward his position, becoming brighter and larger. Reina said to Sames, jesting, "Get the shotgun out." Whether by coincidence or not, at this point the object flashed a bright red, then receded into the distance and was out of sight within 10 seconds. When Reina said "Get the shotgun," Sames turned off the engine to get the keys and unlock the trunk for the shotgun and Reina called Patrolman Heier to tell him that the object was now in the southeast. No sound was heard at any time during the sighting.

The action thus far spanned a period of approximately 10 minutes. At 8:25 Sames started up the patrol car and the pair drove to Highway 81 and Davis street, pulled off the highway and stopped. A local free-lance photographer pulled up and asked where the "thing" was—he had apparently been monitoring police calls. The three men began to scan the sky and spotted a similar object which was on a flight path from east to west. This object, however, did not maneuver, merely flew across the sky and disappeared into the west.

Following the sighting, at 10 p.m., Reina received a call from the State Police reporting that a man had reported in that evening and claimed that he had been followed by a light which hovered over his car. The man seemed to be very frightened and his name was not obtained.

Subsequent conversations with Sgt. Reina revealed that he knew of several other sightings in that general area in the past few years which Mr. Redner hopes to be able to follow up at a later date.

Analysis —

(Continued from Page One)

(tape 209, page 2) was given as follows:

We have a report on the object

sighted by Pete Conrad over Tananarive yesterday on the 18th revolution. It has been identified by NORAD as the Proton III satellite. Since Proton III was more than 450 kilometers from Gemini 11, it is unlikely that any photographs would show more than a point of light.

* ELSS = extravehicular life support system

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Fortunately, they were able to take two photographs of it, which are reproduced as plates 17 and 18 following page 472 of the text. From the size of the image of 100x enlargements and the focal length of the lens used, 38mm, Roach was able to calculate the angle subtended by the widest separation of the four lights that appear in each photo. This was 0.45° corresponding to a separation of 3.5 km. at the inferred distance of 450 km. There is no reference for angular orientation in the two plates, but from the differential brightness and relative position of the four highlights there is definite evidence for the tumbling that Conrad reported.

In an accompanying figure, (fig. 4, page 191) Roach shows that the Orbiting Solar Observatory, with its sails broadside to the observer, would have an apparent magnitude of 5 when viewed from a distance of 400 km. Assuming Proton III to have a visibility on the same order of magnitude as the OSO, it seems impossible that Conrad could have seen it, let alone report "A large object." Furthermore, an object or set of objects with a separation of 3.5 km. could not appear to tumble at 1 rps unless they were moving at a speed on the order of 10 km./sec. around each other; it would seem impossible for such a set of hypothetical objects to maintain their relative position in the face of the centrifugal forces associated with such velocities.

What did Conrad see? "a large object"; "a wingman flying wing on us." Fortunately we have a measure, from Roach's analysis, of the angle subtended by the object at the Gemini spacecraft: 0.45°. This is very nearly the angle subtended by the full moon (average 0.53°), and suggests that an astronaut with 20/12.5 far vision should have had no difficulty in seeing it.

When this analysis was brought to the attention of Dr. Roach, he quickly

agreed that we would have to re-classify what Conrad saw as an unknown.

Hynek in Christian Science Monitor

The April 22 edition of the *Christian Science Monitor* carried an article by Dr. J. Allen Hynek, Head of the Astronomy Department at Northwestern University and former Scientific Consultant to the Air Force's now defunct Project Bluebook.

Dr. Hynek wrote: "It is quite true that a UFO report often violates established laws of physics. A craft possessing any considerable mass simply cannot, because of its inertia, accelerate to very high speeds in a matter of seconds without the application of unheard-of power and the production of great noise.

"Investigators are faced, then, with at least three alternatives: (1) The witnesses suffered a major delusion; (2) an actual craft was present but answering to a higher order of physical laws than are known to our physical scientists; (3) no material object was present, but there was something there that gave all the impressions of being physically real and that could affect people, animals and inanimate objects. The first and third are not equivalent because a delusion doesn't scare horses, cattle, and dogs, nor does it stop cars or interfere with radios and television sets. Physical scientists reject the second alternative outright, conveniently forgetting that less than a hundred years ago they would also have ruled out categorically the possibility of nuclear energy, television, and space flight."

Later, Dr. Hynek commented on the future of UFO research: "Persons with true scientific curiosity will watch with interest the coming post-Condon and post-Blue Book years. Will 'incredible tales told by credible people' cease, now that the verdict has been handed down (by Condon - ed.), or will some pilots and other people in highly responsible positions continue to have UFO experiences? If they do, how will the public be informed, now that there is no official manner for reporting? APRO and NICAP remain. and the writer offers his offices for the receipt of UFO reports for which there are at least two witnesses.

"Study of the phenomenon will go on despite the ridicule barrier. It is unlikely, however, that government agencies can provide funding for such

(See Hynek — Page Four)

Hynek —

(Continued from Page Three)

studies in the light of the *Condon Report* and the Air Force action. A serious, quiet, continuing investigation, sheltered from the glare of publicity and supported by private or foundation funds, is the likely answer. It should be conducted by dedicated physical and behavioral scientists who meet the requirements for scientists once set down by the famous physicist Schroedinger, father of quantum mechanics, who said, "The first requirement of a scientist is that he be curious; he must be capable of being astonished and eager to find out."

New Forms Needed

In the vast year the APRO staff has been devoting much of their time to re-vamping and stream-lining office procedures. With the mailing of membership cards at the end of April this series of changes was completed.

However, Field Investigators badly need a standard investigation procedure manual and the APRO Report Form is in need of a change and expansion. The only delay involved in producing the FI manual and the Report Form is the current strained condition of the budget. Like other organizations, APRO suffered from the apathy which followed the Condon Report and only through cutting costs to the bone have we survived. The situation has now stabilized itself, but in order to be prepared for future UFO activity, the FI manual and the new Report Form must be produced.

Many members have in the past expressed willingness to contribute to the organization above and beyond their dues. We hope that those of you who are interested in the future of APRO and the UFO Research Field will respond to this plea for assistance so that the manual and the report forms can be printed as soon as possible.

Those who donate should stipulate that the contribution is a donation so that a proper receipt can be issued for income tax purposes.

RENEW NOW

Members \$5.00

Subscriptions \$7.00

per year

Power Failures (PF's) Vs.

Unidentified Flying Objects (UFO's)

By PAUL J. SMITH

Mr. Smith, an Information Systems Consultant, is an APRO Field Investigator in the Los Angeles area.

INTRODUCTION:

It has been inferred for quite some time now that there may exist a connection between UFO's and power interruptions (PI's) as labeled by the FPC (Federal Power Commission), or PF's as used in this article. The intent here is not to answer the \$64 question as to "What are UFO's?" but to demonstrate to the reader in a graphical and statistical manner that a strong correlation does appear to rear its head where PF's are concerned. The reader should be reminded that the power failure data as used here applies to the USA only, and its recently acquired states, Hawaii and Alaska.

FPC - REPORT No. 331:

The FPC reports on power disturbances involving loads of 25,000 KW or more and lasting for 15 minutes or longer in duration which involve voltages of 69 KV and above. Vol. 1 of the report to the president contains the resumé of power failures between 1954-1966. Quarterly reports for the years 1967-1969 were also used in preparing this article. The report itself was issued on December 20, 1966, and summarizes in Appendix E the larger power interruptions for the years 1954 to 1966. A total of 148 power failures with sufficient importance to gain publicity was reported. Some of these outages involved transmission network instability and separation; others local in nature affected load areas served radially from the network. The total outages are shown in matrix form in Figure 3 for the years 1954-

PF'S AND UFO CORRELATION:

Using the data from Figure 3 and that from Figure 9 one can plot two curves as shown in Figure 1. The dotted curve graphically depicts the total power failures for the years 1954-1969. The black solid line graphically depicts the UFO sighting reports for the years 1954-1966. The yearly highs and lows for both PF's

and UFO sightings are extracted from Figure 1 and shown in bar graph form in Figure 2.

Observing the curves in Figure 1, it can be seen that the PF and UFO sighting curves are in phase and track each other from year to year (rising and falling together as if in synchronism). An out of phase condition does however exist for the year of 1956. This discrepancy could probably be resolved if additional UFO sighting reports for that year were obtained. Further analysis of the PF data for that year might also remove the differences.

PF - GEOGRAPHIC BREAKOUT:

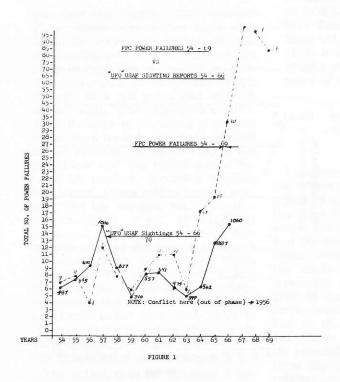
The yearly by state PF's highs and lows are shown in Figure 4-8. Total PF's are shown at the extreme right (circled). Each state's PF's are recorded numerically as shown in descending order. (To the left for highs and to the right for the lows). Individual month's highs and lows are also tabulated. A geographic Power Failure Summary (1954-1969) and corresponding percentages are shown in Figures 8A-8B.

PF WEEKLY BREAKOUT:

The total number of power failures weekly for the years 1954-1969 are shown in matrix form (Figure 3A). Figure 3B shows a group of the High and Low days. A total of 409 power failures are listed. Figure 3, FPC Power Failure Matrix shows 423. The difference of 14 days were not shown in Appendix E of FPC Report. Those days are listed as follows:

The percentage of failures listed for each day are as follows:

Number of Daily PF's		Percentages*	
Thursday	76	18.58	
Wednesday	72	17.60	
Monday	64	15.65	
Friday	63	15.40	
Tuesday	56	13.68	
Sunday	48	11.74	
Saturday	30	7.33	
Totals	409	100%	
		*Rounded up	

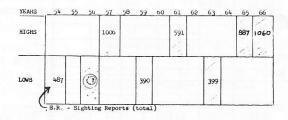


CONCLUSIONS:

Considerable caution should be the order of the day in reading too much from the initial curves (Figure 1). One such caution is to remember that these curves were generated from raw input data. In particular where the PF data is concerned. The FPC report lists the causes as probable. Much more massaging of this data is necessary before solid meaningful conclusions can be drawn. For example, if the probable cause turns out to be "tree felled on power line" or "crop dusting plane crashed into power line," then naturally these types of failures should no longer remain in the probable cause list and must necessarily be removed from the PF matrix Figure 3. More importantly this removal would seriously jeopardize the shape of the PF curve in Figure 1. Additional work by other researchers might prove fruitful if they were to construct a UFO sighting matrix similar to the PF matrix data shown in Figures 4-8. The data could then be correlated looking for PF and UFO sighting clusters or groupings. If something looks interesting then extracting to the next level (city, day, hour) etc. would probably prove worthwhile.

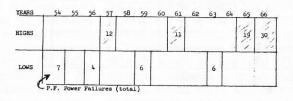
UFO - USAF PROJECT BLUEBOOK SIGHTINGS

1954 - 1966



FPC POWER FAILURES

1954 - 1966



SUMMARY -

UFO's HIGHS - 57, 61, 65 and 66

LOWS - 54, 3 59 and 63

PF's - HIGHS - 57, 61, 65 and 66

LOWS - 54, 56, 59, and 63

FIGURE 2

U.S.A.

FPC - POWER FAILURES MATRIX 1954 - 1969

YEARS		FEB.	MAR.	APH.	MAY.	JUN.	JULY.	AUG.		OCT.	NOV.	DEC.	TOTAL
1954	1							1	1	3		1	7
1955			2		1	1	1	2		1			b
1956						1			1	1		1	4
1957	4		1	1	2	2		1		1			12
1958			1			3	2		1			1	8
1959	4							1				1	6
1960	1		2	1	2	1			2				9
1961			1			3	2	2	2		1		11
1962			2			1		14		3		1	11
1963			1			3	1					1	6
1964		1	2	3	1			3	1	1	2	3	17
1965	3	1		5	1	2		1	2		2	2	19
1966	2		1	1	2	2	11	1			6	4	30
1967	7	12	14	5	10	8	11	11	3	3	3	10	97
1968	7	11	7	6	4	12	12	12	4	3	7	9	94
1969	9	9	6	7	5	4	13	8	12	2	5	4	84
1970													
1971					e istiliere e								
1972								1000	To the	-			
1973													
1974													
1975													
FOTALS		34	40	29	28	43	53	47	29	18	26	38	423

FIGURE 3

U. 3. A.

		1.04	ER FAILURE	WEEKLY 195	4 - 1969			
YEAR.;	SUNDAY	MONDAY	TUE DAY	WEDNECDAY	THURSDAY	FRIDAY	SATURDAY	TOTALS
1954	5		1			1	2	6*
1955				1	1			2*
1956		1		1		1		3*
1957	1	2	1	1	4	1		10*
1958			2	3	1			6*
1959	2			1	2	1		6
1960	1	1	1	5	3	1		9
1961		3	2	1	3	2		11
1962	2	4	1			3		10*
1963	1		1	1.	1	1		5*
1964	1	3	5	5	3	3	3	17
1965	3	2	3	3	6	1	1	19
1966	1	7	6	5	6	4	1	30
1967	9	19	10	18	14	19	8	97
1968	7	10 \	14	22	19	12	10	94
1969	18	12	12	11	13	13	5	84

FIGURE 3A

72

76

63

30

409

56

* INCOMPLETE

48

TOTALS

FPC POWER FAILURES

WEEKLY

1954 - 1969

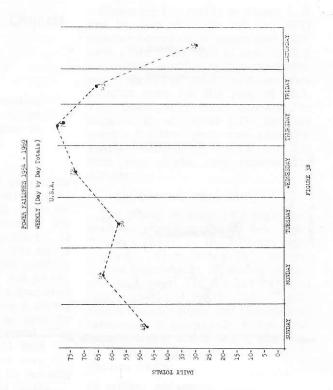
WEEKLY	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
HIGHS	April 1	64		72	76	63-	
LOWS	48 -		56				30

DAILY TOTALS

SUMMARY

HIGHS - Thursday, Wednesday, Monday and Friday LOWS - Tuesday, Sunday and Saturday.

FIGURE 3C



GEOGRAPHIC BREAKOUT

POWER FAILURES (PF's)

1954 - 1957

U.S.A.

EAR		STATE	ES				MONTHS				TOTAL
1954	P.F.	HIGH	LOW	P.F.	NO. REPORT	HIGH	P.F.	LOW	P.F.	NO. REPORT	PF's
	2 2 2	Ohio N. East Illinois	Massachusetts	1	A L L O T H E R	Oct.	3	Jan. Aug. Sept. Dec.	1 1 1 1	A L L O T H E R S	7
1955	3	N. East Coast	Illinois Indiana New Jersey Texas New York	1 1 1 1 1	A L L O T H E R	Mar. Aut.	2 2	May June July OCT	1 1	A L L O T H E R	(8)
1956		N. A.	Wisconsin Ohio N.w York New Jersey	1 1 1 1 1	A L L O T H E R S			June Sept. Oct. Dec.	1 1 1 1 1	A L L O T H E R S	(•)
1957	3 2 2	New York Kansas Texas	Indiana Arkansas Tennessee Wash. D.C. Minnesota	1 1 1 1 1 1	A L L O T H E R S	Jan Muy June	4 2 2	Mar. Apr. Aug. Oct.	1 1 1 1 1 1	A L L O T H E R	(12)

FIGURE

POWER FAILURES

1358 - 13-1

AR		STA	TES				MONT	is		-	
	P.F.	. HIGH	LOW	P.F.	NO REPORT	HIGH	P.F.	LOW	P.F.	NO REFORT	TOTAL PF's
1958		N.A.	N.East Coast Minnesota Kansas Louisiana New Jersey S. Carolina N. Carolina New Mexico	1 1 1 1 1 1 1 1	A L L O T H E R S	June July	3 2	Mar. Sept Dec.	1	A L L O T H E R S	(8)
1959	2	New York	Washington Texas New Jersey Missouri	1 1 1 1 1	A L L O T H E R S	Jan.	4	Aug. Dec.	1	A L L O T H E R S	6
1960	2	Oklahoma	New Jersey Louisiana Tennessee Hawaii Ohio New York East Coast	1 1 1 1 1 1 1 1 1	A L L O T H E R S	Mar. May Sept.	2 2 2	Jan. Apr. June	1 1	A L L O T H E R S	9
1961	3 3 2	Idaho New York Texas	Connecticut California Ohio	1 1 1	A L L O T H E R S	June July Aug. SEPI	3 2 2 2	Mar. Nov.	1	A L L O T H E R S	(1)

FIGURE 5

POWER FAILURES

1302 - 1305

		STATE	S				MONTE	Ş			
YEAR	P.F.	нісн	LOW	P.F.	NO REPORT	HIGH	P.F.	LOW	P.F.	NO REPORT	TOTAL FF's
1,62	3 2 2	New York Calif. Oregon	New Jersey Washington Iowa Onio	1 1 1 1	A L L O T H E H S	Aug. Oct. Mar.	3 2	June Dec.	1	A L L O T H E R	
1963	2	New York	Florida Oklahoma Kansas California	1 1 1 1	A L L O T H E R S	June	3	Mar. July Dec.	1 1 1	A L L O T H E R S	6
1964	3 3 2 2	New York Florida Texas Calif.	S.W. Tenn. Alaska New Mexico Louisiana Washington New Jersey Indiana	1 1 1 1 1 1	A L L O T H E R S	Apr. Aug. Dec. Nov. Mar.	3 3 3 2 2 2	Feb. May Sept Oct.	1 1 1 1	A L L O T H E R S	17)
1965	3 3 2 2 2 2	Illinois Iowa Texas Penna. Wash.	Indiana Minnesota Arizona Colorado Louisiana Florida N.East (U.S.)	1 1 1 1 1 1	A L L O T H E R S	Apr. Jan Jun Sept Nov. Dec.	5 3 2 2 2 2	Feb. May Aug	1 1 1	A L L O T H E R	19

FIGURE 6

POWER FAILURES

1966 - 1967

		STATE	S				MOI	WTHS			
ŒAR	P.F	HIGH	LOW	P.F.	NO REPORT	HIGH	P.F.	LOW	P.F.	NO REPORT	TOTAL PF's
	5	Calif.	Mississippi	1	A	July*	11	Mar.	1	A	
1966	14	Texas	Alaska	1	L	Nov.	6	Apr.		L	1
	3	Georgia	lorida .	1	L	Dec.	4	Aug.	1	L	
	2	W. Vir.	Pennessee	1		Jan	2	-		00.000	(30)
	2	Virginia	Nebraska	1	0	May	2	1 - 3		0	
	2		Oklahoma	1	T H	June	2			T H E	
	2	Wash.	New Mexico	1	H		100			H	1
	1 1		Nevada	1	E	Vi .		1		E	1)
	1 1		Illinois	1	R					R	i .
			Arkansas	1	S					8	
1967	10	Texas	Montana	1	S William Act	Mar	14	Sept	3	THE PARTY OF THE P	
- ,01	8	Calif.	Wyoming	1.	A	Feb.	12	Oct.	3	A	l .
	7	Wash.	Iowa	1	L		11	Nov.	3	L L	
	6	Utah	Louisiana	1	L	Aug.	11	100000	-	L	1
	5	Idaho	Wisconsin	1	-	May	10				1
	5	Kentucky	Michigan	1	0	Dec.	10			0	
	14	Ohio	Indiana	1	T	Jun	8			O T H E R	(97)
	14	Penna.	Florida	1	н	Jan	7			н	
	3 1		Virginia	1	E	Apr.	5			E	
	3		Connecticut	1	R		107	1 1		R	
	3		N. Jersey	1	S			1 1		S	1
	3		Maryland	1				1 1			ii .
	3	Georgia				1		1 1			1
	3	Мывв.									t .
	2	New Mexico			1 1 9						1
	2	Okla									1
	2	Missouri						1			
	2	Tenn.						1 1			
	2	Alabama				1		1			
	2	N. Carol.									A
	2.	S. Carol.									1
	2.	Maine				1					Ħ
	2	Alaska			1 1	li .		1			ii.

** Very High FIGURE 7

POWER FAILURES

1968-1969

YEAR	P.F.	HIGH	STATES	10.0				NTHS			
IEAR	P.F.	HIGH	LOW	P.F.	NO REPORT	HIGH	P.F.	LOW.	P.F.	NO REPORT	TOTAL PF'S
	7	Texas	Wisconsin	5		Jun.	12	May	4		i i
1968	7	Ala.	Mass.	2	A	July	12	Sept	4	A	2
	7	Georgia	S.Dak.	5	L	Aug.	12	Oct.	3	L	
	5	Ohio	Ariz.	2	L	Feb.	11			L	l
	5	N.Car.	Ind.	2		Dec.	9			~	-
	5 5 4	Calif.	Utah	2 2	0	Jan	9 7 7			0	(94)
1		Tenn.	S.Car.	2	T H	Mar.	Ť			T	()
	4	Wash.	N.Y.	2	н	Nov.	7				
	4	Iowa	Okla	1	E	Apr.	6			R	Ü
- 1	3 3	Idaho	Miss.	1	R			7		R	i
	3	I11.	R.I.	1	S					H E R	8
	3	Ore.	Nebr.	1						-	il .
	3	N.Mex.	Fla.	1							
	3 3 3	La.	Kan.	1	1						
	3	Vir.	Missouri	1							i
	3.	Penna.	Mich.	1		5					9
			Wyo.	1							
	8	Wash.	Minn							TOTAL LINE COLUMN	-
1969	8	N.Car.	Iowa	1		July	13	Jan	9		
1909	6	Fla.		1	A	25.3	1000	245		A	
	-	Calif.	Oregon		L	Sept	12	Feb	9	L L	
	5 4	Ala.	Wyo	1	L L			Aug		L	
	4	Texas	Maryland Mont.					Apr	7		
	i l	Ohio	Kent.	1				Mar	6		0
	4	Mich	Kent.	1	0			May	5	0	(84)
		S Car.	Ind.	1	T H			Nov	5	T	
	3	R.I.	La.	ì	E			Jun	4	Н	
- 1	3	Ga.	N. Dak.	1	R.			Dec	4	E)
	3	Wisc.	N. J.	1	s.				2	R	li .
	2	S. Dak.	Utah	i	0			Oct	2	S)
	2	Tenn.	Vermont	1							Į.
	2	Ariz.	reamone.	-	2						
	3 3 3 3 2 2 2 2 2	Nevada	Havaii	1							1
	2	Miss.	Alaska	1							i i
	2	N. Mex	A LADAG	-							
	2	Conn.		- 6							1

GEOGRAPHIC SUMMARY

POWER FAILURES 1954 - 1969

STATE	POWER FAILURES (PF'S)	FERCENT OF TOTAL (4)
Texas	35	8.3
California	29	6.9
Washington	26	6.0
New York	21	5.0
Ohio	19	4.5
Geor, an	16	4.0
North Carolina	16	4.0
Florida	14	3.3
Alabana	13	3.1
Tilinois	13	3.1
Tennessee	12	2.8
Idaho	11	2.6
New Mexico	10	2.4
Town	10	2.4
Louisiana	9	2.1
Oregon	9	2.1
Pennsylvania	ý	2.1
Utah	9	2.1
	9 9 8	2.1
New Jersey	3	2.0
Arizona	8	2.0
Indiana	8	2.0
South Carolina	8	2.0
N. East Const		
Oklahoma	7	1.7
South Dakota	7	1.7
Wisconsin	7	1.7
Kentucky	U	1.4
Massachusetts	U	1.4
Hienigan	U	1.4
Missouri	ь	1.4
Virginia	U	1.4
Alaska	5	1.2
Kansas	5	1.2
Connecticut	4	1,0
Minnesota	4	1.0
Mississippi	4	1,0
Rhode Island	4	1.0
Nevada	3 3 2	.7
Wyoming	3	.7
Arkansas		.4
Havaii	5	.4
Maine	2	.4
Maryland	2	. 14
Montana	2	.1,
Nebraska	2	.4
West Virginia	2	-4
Colorado	1	.2
0020.000		• •

FIGURE BA

GEOGRAPHIS SUMMARY

POWER FAILURES 1954 -1969 (Continued)

STATE	POWER FAILURES (PF'S)	PERCENT OF TOTAL (%)*
North Dakota	1	.2
Vermont	1	.2
Washington (D.C.)	1	.2
Delaware	0	0
New Hampshire	0	0
nts 52###	423	100*

- *** N. Last Coast and Washington D.C. account for difference
- ** Individual states not given
- * Rounge

NOTE: Over 50% or all FF's occurred in 11 states or 22% of entire U.S.A.

FIGURE 8B

