

January 9, 1992
LIC-91-319R

Omaha Public Power District
444 South 16th Street Mall
Omaha, Nebraska 68102-2247
402/636-2000

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, DC 20555

References: 1. Docket No. 50-285
2. Letter from OPPD (W. G. Gates) to NRC (Document Control Desk) dated September 3, 1991 (LIC-91-234R)

Gentlemen:

SUBJECT: Elevated Ambient Air Temperature Effect on Fort Calhoun
Station Emergency Diesel Generators (EDGs)

On November 4, 1991, Omaha Public Power District (OPPD) personnel participated in a telephone conference call with the NRC staff to discuss previously provided NRC comments regarding Reference 2. These six comments resulted from NRC staff review of the Reference 2 submittal which provided the revised OPPD analysis of elevated ambient air temperature effects on the EDGs and responses to previous NRC requests for information. Because resolution of the comments could not be reached during this call, the NRC staff met with OPPD representatives on November 13 and 14, 1991.

Although the meetings resolved the outstanding issues for the staff's review, it was agreed that OPPD would submit additional information necessary to support its calculational approach. This was to include the status of recommended improvements provided by Young Radiator. Attachment 1 provides a response to each of the six comments, while Attachment 2 provides the status of the recommended improvements.

If you should have any questions, please contact me.

Sincerely,

W. G. Gates

W. G. Gates
Division Manager
Nuclear Operations

WGG/sel

Attachments (2)

c: LeBoeuf, Lamb, Leiby & MacRae, w/o Attachments
R. D. Martin, NRC Regional Administrator, Region IV, w/o Attachments.
D. L. Wigginton, NRC Senior Project Manager, w/o Attachments
R. P. Mullikin, NRC Senior Resident Inspector, w/o Attachments

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RESPONSES TO NRC COMMENTS

Note: Descriptions of NRC comments are paraphrased and condensed from the 43 page package provided by the NRC staff.

NRC Comment 1

OPPD responses to previous questions on engine loading during tests do not appear consistent with each other or with test run data sheets; what loading was acceptable?

OPPD Response 1

The testing of each diesel generator conducted in 1990 was based on 2500 kW load. For this testing, the engine was pre-warmed and then loaded manually. For the data in question, the engine was started at 1438 hours, the load was at 20% of 2500 kW (approximately 486 kW) at 1445 hours, and 90% of 2500 kW at 1447 hours. The engine would have been at 2500 kW in approximately one more minute.

A portion of engineering analysis EA-90-062, Rev. 0, evaluated output capacity as a function of time and jacket water (JW) temperature. In a LOCA, the engine reaches full load in approximately one minute. The T = 0 (starting time) was selected at 90% of 2500 kW. The engine was then loaded to 2500 kW which is within the surveillance test tolerance. This represents a conservative approximation of sequential loading of the diesel generator in response to a DBA (0 to approximately 2500 kW). The 2500 kW loading is considered consistent with other tests.

The ERF group trend report for June 25, 1990 which show generator loading is attached for NRC review as discussed in the November 13, 1991 meeting.

NRC Comment 2

Assumption 5.6 (i.e., at elevated temperatures of >95°F, inlet air to the radiator fan is the same temperature as outdoor ambient) does not appear to be supported by the data. Also, 96°F ambient temperature stated for 6/26/91 testing of DG-1 is not clearly documented in test data.

OPPD Response 2

Greater than 95°F was used as an example of elevated temperatures. Due to the DG room configurations, a high volume of air (>100,000 scfm) washes through each room and enters the radiator fan inlet without picking up any significant amount of heat from the engine or components. When outdoor temperatures are below indoor ambient temperatures, some heating of the air may occur, but would be insignificant. Temperatures of 95°F to 96°F were only reached during the 6/26/91 test run as stated in the NRC staff comment. The 95°F in the assumption had little significance; the assumption could have stated "at outdoor temperatures in excess of indoor ambient temperatures, inlet air to the radiator fan is considered to be the same temperature as outdoor ambient."

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Thermocouples placed at the edge of the fan shroud (channels 5-10) did show higher than ambient temperatures. This phenomenon prompted additional air temperatures to be taken with a hand held digital thermometer. It was noted that the outside perimeter of the fan shroud had an area where the turbulent air flow downward off the blade tips was much warmer than the air flowing upward, towards the core. This fan blade tip recirculation effect was drawing back some of the air heated by the radiator core and discharging it into the room. Page 9 of 15 of EA-90-C91, Rev. 0, shows that temperatures taken at various locations away from the thermocouples corresponded quite well with outdoor temperatures (channels 14-19 on sheet 3 of 15 of that analysis).

Confirmatory testing performed 6/26/91 and 8/27/91 showed that a ΔT (outdoor air vs. radiator inlet) of 0°F to 1°F existed for DG-2, while an approximate 1°F to 3°F ΔT existed for DG-1 due to differing room configurations. A portion of this difference may still be attributable to a mixing action of the recirculated air with the inlet air at the point where temperatures are measured. Radiator inlet air temperature is not a critical parameter in derating methodology, but is important in predicting expected radiator performance. Data received from Young Radiator shows that significant margin still exists in maintaining jacket water temperatures at 208°F when outdoor temperature is 110°F and the small ΔT s measured are applied. For reasons stated above, no impact from the small ΔT s would be realized on Young Radiator calculations.

As noted previously, all tests utilizing thermocouples or hand held thermometers to measure air temperatures in the outer one foot perimeter of the fan inlet showed a significant ΔT . As a result, radiator inlet temperatures were subsequently taken at locations that more accurately reflected actual ambient air temperatures. Anomalous thermocouple placement practices in early tests, combined with substantial instrument uncertainty (nearly 4°F), prompted OPPD to abandon the use of thermocouples for diesel testing in favor of more accurate digital thermometers for testing performed after 7/17/90.

Attached is the computer printout of the Fort Calhoun Station weather tower hourly average temperatures during the 6/26/91 DG-1 test (95.5°F at 1700 hours). Hand held digital thermometer temperature readings for the surveillance test show 96°F at 1700 hours.

NRC Comment 3

Details of Modification FC-90-073 (Exciter cabinet coolers) are requested: (1) where is heat exhausted to, and (2) what is the new A/C load and has it been added to the worst case LOCA load profile?

OPPD Response 3

The heat is exhausted in front of the AI-13S cabinets, in the vicinity of the generator. No resultant significant change in temperature in the vicinity of the turbocharger inlet was noted. Projected turbo inlet temperatures were conservative. See the data sheet in response to Comment 6.

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The A/C load (2.4 kW) was added to the worst case LOCA load profile at the time of the analysis. The total was compared to the margin and was judged acceptable with the appropriate actions which were taken per procedure. The changes will be included in the next formal revision of the load calculation (FC03382). This document will be updated prior to the end of the refueling 1992 outage.

NRC Comment 4

Projected temperatures from the FCS computer model do not appear to be supported by the actual test data; the operating limit for DG-1 was based on projected, not empirical data, and the 20 minute period did not account for extending jacket water heat up periods due to cleaning and coolant changes.

OPPD Response 4

The test of June 25, 1990 was used to determine typical ΔT s at the turbocharger while the engine and room heat up. These ΔT s were then added to 110°F to predict turbocharger inlet temperatures for use in determining derating.

Review of several test runs determined that 30 to 40 minutes was the typical period required to reach JW temperature equilibrium (with thermostatically controlled valve elements fully open) and, barring load changes or ambient temperature changes, the JW temperature remained constant. Using 20 minutes instead of a longer time period is conservative, since moving from the 190°F derating curve to the 200-210°F curve earlier in the test run causes more severe derating at a time when post-LOCA loads have not yet dropped significantly.

No correlation to a clean radiator or water as the coolant was implied. Section 6.9.1 of EA-90-062 Rev. 2 could have been worded more clearly, e.g., "JW temperature is expected to be 208°F at some point in time 20 minutes or more after a cold start. On the next revision to EA-90-062, the wording in 6.9.1 will be clarified.

The DG operating limit was essentially calculated by the same method as EA-FC-90-062 Rev. 0, Section 6.9.2, page 23.

A self-imposed operating limit goal of 110°F was established by OPPD. This figure corresponds to the highest recorded Omaha temperature since Fort Calhoun Station initial commercial operation in 1973.

The maximum ΔT for jacket water to ambient air (see data sheet in response to Comment 6) is calculated as 208°F - 110°F = 98°F. As can be seen from post-analysis hot weather testing, the maximum ΔT (JW outlet to outdoor ambient) experienced was around 93°F for DG-2 and 94°-95°F for DG-1, less than the 98°F calculated maximum. The Young Radiator expected performance analysis predicted that JW could be maintained at 208°F or below even at temperatures in excess of 110°F.

By using past test data, vendor information, jacket water and turbocharger heat up rates, OPPD analytically determined that the FCS Emergency Diesel Generators can perform their design basis function at 110°F outdoor ambient temperature.

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NRC Comment 5

The MK Power Systems (MK) derating calculation is not in agreement with the derating curves. If the curve is used for HP derating (Comment 6) instead of the calculated relationship $\Delta T 10^\circ F = 100 \text{ HP}$, the required generator load value exceeds the available HP at the 2000 hour rating.

OPPD Response 5

The relationship of $10^\circ F$ to 100 HP deration holds true when considering the engine duty or service cycle is in continuous operation (3600 BHP available). At other duties, such as the 2000 hour/year rating that the Fort Calhoun Station diesels utilize, the curve is always utilized in calculating derating and ultimately generator output. Use of the curve is therefore conservative, in that derating in excess of 100 HP per $10^\circ F$ is applied in OPPD calculations.

As an example, the curve was consulted for the following case:

1. $100^\circ F$ yields a derating (percentage of standardized rating) of 0.973.

$1 - 0.973 = 0.027 \times 3600 \text{ BHP continuous} = 97.2 \text{ BHP}$ or approximately 100 BHP as stated in the MK data.

For the 2000 hour/year rating, $0.027 \times 3950 = 106.7$ (more than the 100 HP from the MK sheet).

2. Similarly, for $110^\circ F$, a curve obtained derating percentage of 0.944 is used.

$1 - 0.944 = 0.056 \times 3600 \text{ BHP continuous} = 201.6 \text{ BHP}$ (= 200 HP per MK data)

For the 2000 hour/year rating, $0.056 \times 3950 = 221.2 \text{ BHP}$, again more conservative.

The only time that the 100 BHP per $10^\circ F$ was used in the analysis was to help determine the heat input into the engine coolant. This was supplied to Young Radiator for a computer model of expected radiator performance.

When analyzing for operation at $110^\circ F$, derating factors applied to generator output were always taken from the curves, multiplied by gross available kW to determine net available power, and compared to LOCA load demands for acceptability.

NRC Comment 6

Increase in turbo intake vs. ambient temperature is not adequately addressed in the DG-1 calculation of heat input to engine coolant. Use of DG-2 test data (7/16/90 and 7/17/90) does not seem appropriate since air flows around each engine are different.

Attachment 1
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OPPD Response 6

Data from the 7/16/90 and 7/17/90 runs were only utilized for the purposes of approximating heat-up rate for jacket water and turbocharger inlet temperatures. Since high ambient temperatures are more detrimental on DG-2 than on DG-1, use of this data is conservative.

A chart (attached) comparing projected performance vs. actual test data has been prepared to address this issue. Additionally, BHP was utilized in the analysis only for heat input determination and the remainder of the analysis used the derating percentage applied to base kW.

STATUS OF RECOMMENDED IMPROVEMENTS

1. **Steam Clean Radiator**

A modification to add access doors to the radiator exhaust duct was completed in March 1991. This allowed maintenance personnel to steam clean and straighten the radiator core cooling fins, restoring them to a near new condition. Subsequent flow and performance testing showed marked improvements. In addition to providing 2% and 7% air flow increases for EDG-1 and EDG-2, respectively, this work improved radiator heat transfer capabilities substantially by removing the fouling layer from the cooling fin surfaces.

Periodic radiator inspection and cleaning will become a regular preventive maintenance (PM) activity to ensure optimum cooling system performance. The frequency of this PM will be evaluated by OPPD and the evaluation conclusion will be communicated to the NRC by June 30, 1992.

2. **Change fan blade pitch**

Extensive testing during March 1991, using 12°, 18° and 25° pitches, showed that the existing configuration (25° pitch) yielded the maximum flow potential of the radiator cooling fan.

3. **Reduce Fan Tip Speed**

The manufacturer had stated that the factor of safety (at least 2) at the current fan tip speed was reduced from the factor of safety (4) desired by present day design standards. The manufacturer recommended the new 12-blade replacement fans. The recommended fans purchased incorporate heavy duty clamp blocks (4 Bolt vs. 2 bolt), provision for installation of stake bolts, and collar/stops on the blade shaft ends to prevent pull-out. The manufacturer stated that the new fans meet current industry standards. The new fans are scheduled to be installed as 1992 outage work.

4. **Reduce Tip Clearance to 3/8"**

The new 12-blade fans were ordered with +1/8", -0" diameter tolerance. A step to shim adjust the fan shroud for gap uniformity will be included in the fan installation instructions. Minor improvement in fan performance is expected to result from these changes.

5. **Effect of Screen Location**

During fan pitch testing (first quarter, 1991), flow was checked both with the screen in-place and removed. No significant difference was noted. The screen is now in place and will remain in place as a personnel safety device.

6. **Install Elliptical Duct on Inlet**

This option was considered, but was not deemed practical due to interferences and lack of available space.

7. Add Flow Turning Vanes

A temporary flow straightening device was installed and tested, but only minimal improvement in flow was noted. The flow straightening device was subsequently removed.

8. Investigate 12-Blade Replacement

To improve flow, static pressure capabilities, and safety margins, 12 blade replacement fans will be installed. See Items 3 and 4 above.

9. Use Water with Inhibitor

The current practice is to use a 1:1 water/glycol solution during winter months and all water with ambitol inhibitor during summer months. MK Power Systems states that a 180 HP "credit" can be added to available horsepower when only water is used as the engine coolant. The benefit of this credit is that 130 kW can be added to base generator output, reducing the effect of temperature related derating and allowing each generator to meet post-LOCA load requirements at outdoor temperatures up to 110°F. A PM will be generated to ensure that the seasonal coolant changeout will be maintained to assure hot weather capability of the EDGs is maintained. This will occur by June 30, 1992.

KT/GROUP TREND REPORT

DATE 6/25/1990

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

115

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

115

12

DEG F

115

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

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DEG F

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DEG F

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GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

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DEG F

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TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

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12

DEG F

115

12

DEG F

115

12

DEG F

115

12

DEG F

115

12

DEG F

115

12

DEG F

115

DATE 6/25/1980

POINT/ROUP TREND REPORT

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

11a

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

TIME	V3276 KW	V3257 VOLTS	V3259 AMPS	V3261 KW	V3255 KVAR	V3277 KW	V3258 VOLTS	V3260 AMPS	V3262 KW	V3256 KVAR
14:40:35	2.382E+03	4.149E+01	34.0	60.0	902.0	3.28	0.513	5.859E+02	60.0	3.28

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

TIME	V3276 KW	V3257 VOLTS	V3259 AMPS	V3261 KW	V3255 KVAR	V3277 KW	V3258 VOLTS	V3260 AMPS	V3262 KW	V3256 KVAR
14:51:56	2.33E+03	4.176E+01	35.0	60.0	1.116E+01	3.28	1.03	5.859E+02	60.0	3.28

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

TIME	V3276 KW	V3257 VOLTS	V3259 AMPS	V3261 KW	V3255 KVAR	V3277 KW	V3258 VOLTS	V3260 AMPS	V3262 KW	V3256 KVAR
14:52:36	2.427E+03	4.177E+01	36.0	59.5	1.168E+01	3.28	1.03	0.000	60.0	3.28

DATE 6/25/1990

1997

GROUP NAME: PG

DISCUSSION: CELL GENERATION WITH TEMP

12

015-5

115

TABLE 1. Continued

3276

Y3257
MOLTS

[illegible]

95243
WZ

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TCRP

95256
95257

10

10

2

REG. 2

10

Table 1

43276

W3257
WOLIS

65259
A 000000

15241

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

952514

SLVARS

SLVARS

2

403

●
●
●

6/25/98 19:55: 5 AZIMUTHAL TILT

SAFETY CHANNELS

DETECTORS	TILT (X)	ANGLE (DEG)	HARMONIC INDEX
UPPER	0.51	-56.	1.001
LOWER	0.91	-43.	1.001
SUMMED	0.24	12.	1.002

SAFETY CHANNELS A AND C - CONTROL CHANNELS A AND B

DETECTORS	TILT (X)	ANGLE (DEG)	HARMONIC INDEX
UPPER	0.41	-25.	1.002
LOWER	0.76	-39.	0.992
SUMMED	0.23	29.	0.997

SAFETY CHANNELS B AND E - CONTROL CHANNELS A AND B

DETECTORS	TILT (X)	ANGLE (DEG)	HARMONIC INDEX
UPPER	0.50	-22.	0.992
LOWER	0.16	81.	0.992
SUMMED	0.26	19.	0.992

VECTOR AVERAGE	TILT (X)	ANGLE (DEG)	TILT	TILT2
UPPER DETECTORS	0.47	-62.	1.000	0.000
LOWER DETECTORS	0.22	-77.		
SUMMED DETECTORS	0.24	73.		

TIME	Y3274 KW	Y3257 VOLTS	Y3259 AMPS	GROUP NAME: CG Y3255 KVARS	Y3261 HZ	Y3277 KW	DESCRIPTION: DIESEL Y3258 VOLTS	GENERATOR Y3260 AMPS	WITH TEMP Y3256 KVARS
14255.29	2.461E+03	4.179E+03	176.	1.253E+01	59.8	3.28	0.513	5.859E+02	60.3

Y2
NEG F
115.

TIME	Y3274 KW	Y3257 VOLTS	Y3259 AMPS	GROUP NAME: CG Y3255 KVARS	Y3261 HZ	Y3277 KW	DESCRIPTION: DIESEL Y3258 VOLTS	GENERATOR Y3260 AMPS	WITH TEMP Y3256 KVARS
14256.40	2.451E+03	4.149E+03	180.	1.589E+01	60.8	3.28	1.54	5.859E+02	60.3

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

T2
DEG F
115.

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
14:57:40	2.435E+03	4.184E+03	384.	60.5	1.404E+03	3.28	1.54	5.859E-02	60.7	3.28

T2
DEG F
114.

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
14:58:40	2.405E+03	4.184E+03	387.	60.7	1.460E+03	3.28	1.83	0.117	60.7	3.28

T2
DEG F
82.1

TIME	T3106	T3107	T3105	T3103	T3104	L3101	L3102	P3116	P3118	P3117
	DEG F	DEG F	DEG F	DEG F	DEG C	%	%	PSIG	PSIG	PSIG
14:58:40	191.	152.	148.	135.	71.0	83.7	100.	71.4	727.	1.3551
	T3113	T3114	Y3268	F212						
	DEG F	DEG F	KW	GPM						
	116.	134.	1.964E+03	75.7						

TIME	T3124	T3127	T3125	T3123	T3124	L3121	L3122	P3136	P3138	P313
	DEG F	DEG F	DEG F	DEG F	DEG C	%	%	PSIG	PSIG	PSIG
14:58:40	170.	146.	124.	138.	76.5	84.3	99.7	71.5	747.	1.3871

DATE 4/25/1990

POINT/GROUP TEND REPORT

TIME

GROUP NAME: RCPC

DESCRIPTION: REACTOR COOLANT PUMP B

13123	13134	12249	1212
DEG F	DEG F	KW	GPM
115.	133.	2.002E+03	75.7

TIME

GROUP NAME: RCPC

DESCRIPTION: REACTOR COOLANT PUMP C

13146	13147	13145	13143	13141	13142	13156	13158	13157
DEG F	DEG F	DEG F	DEG F	DEG C	DEG C	PSIG	PSIG	PSIG
171.	154.	179.	114.	79.8	99.5	11.8	670.	1.307E
13153	13154	12270	1212					
DEG F	DEG F	KW	GPM					
114.	136.	2.000E+03	75.7					

TIME

GROUP NAME: RCPC

DESCRIPTION: REACTOR COOLANT PUMP D

13166	13167	13165	13163	13161	13162	13176	13178	13177
DEG F	DEG F	DEG F	DEG F	DEG C	DEG C	PSIG	PSIG	PSIG
174.	145.	135.	127.	88.8	103.	72.8	733.	1.359E
13175	13178	12271	1212					
DEG F	DEG F	KW	GPM					
113.	133.	2.039E+03	75.7					

TIME

GROUP NAME: CIRC

DESCRIPTION: CIRCULATOR BSG TEMPS

11906A	11907A	11908A	11909A	11907B	11908B	11909B	11906C	11907C
DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F
159.	121.	169.	180.	116.	170.	99.0	153.	121.
11906C	11909C	11908C	11907C					
DEG F	DEG F	FT	FT					
172.	117.	990.						

TIME

GROUP NAME: FWHTR

DESCRIPTION: FEED AND HEATER DRAIN PUMPS

11152A	11152B	11152C	11218A	11218B	11153A	11153B	11153C	11219A	11219B	11219C
DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F
124.	152.	84.0	149.	144.	128.	133.	108.	117.	108.	108.

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME	GROUP NAME: FWHR				DESCRIPTION: FEED AND HEATER DRAIN PUMPS				
	T1154A	T1154B	T1154C		T1155A	T1155B	T1155C	T1218C	
	DEG F	DEG F	DEG F		DEG F	DEG F	DEG F	DEG F	
	136.	126.	90.5	0.000	0.000	146.	135.	89.7	107.
	T1156A	T1156B	T1156C	T1219C					
	DEG F	DEG F	DEG F	DEG F					
	105.	102.	89.2	116.					

TIME	GROUP NAME: DG				DESCRIPTION: DIESEL GENERATOR WITH TEMP				
	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262
	KW	VOLTS	AMPS	HZ	KVAR	KW	VOLTS	AMPS	HZ
14:59:43	2.425E+03	4.188E+03	386.	59.6	1.477E+03	3.28	1.03	5.859E+02	60.3
	T2								
	DEG F								
	-57.7								

6/25/90 15:01:4	HOURLY	* CES	INSERTION	DURATION	* PW-DAY	LOG
	24H	24H	CYA	30D	30D	TDA
	339.7	0.0	1151.2	1151.2	27066.6	0.0

15: 0 6-25-1990

HOURLY FLUX VALUES

KC111	KC112	KC113	KC114	KC121	KC122	KC123	KC124
12.84	14.66	15.46	14.12	14.45	16.76	17.70	15.74
KC131	KC132	KC133	KC134	KC141	KC142	KC143	KC144
15.56	18.61	19.17	15.50	16.35	18.76	19.58	15.76
KC151	KC152	KC153	KC154	KC161	KC162	KC163	KC164
47.84	49.41	50.95	44.31	34.66	42.23	42.87	38.37
KC171	KC172	KC173	KC174	KC181	KC182	KC183	KC184
37.21	42.92	43.98	39.96	36.59	42.61	43.98	40.16
KC191	KC192	KC193	KC194	KC201	KC202	KC203	KC204
44.89	54.65	55.42	47.77	47.56	54.22	55.24	46.17
KC211	KC212	KC213	KC214	KC221	KC222	KC223	KC224
54.42	62.78	65.49	55.31	54.83	63.55	65.56	58.85
KC231	KC232	KC233	KC234	KC241	KC242	KC243	KC244
31.37	30.67	35.40	34.79	51.57	59.15	61.71	55.34
KC251	KC252	KC253	KC254	KC261	KC262	KC263	KC264
48.27	55.08	57.66	53.37	51.91	59.50	62.59	55.89
KC271	KC272	KC273	KC274	KC281	KC282	KC283	KC284
51.76	59.44	61.19	52.62	51.44	58.99	61.85	56.55
KC291	KC292	KC293	KC294	KC301	KC302	KC303	KC304
51.02	58.94	61.70	56.88	51.59	59.00	62.16	56.77
KC311	KC312	KC313	KC314	KC321	KC322	KC323	KC324
52.26	59.53	62.76	55.85	52.55	61.24	64.94	58.73
KC331	KC332	KC333	KC334	KC341	KC342	KC343	KC344
52.54	60.30	63.48	58.74	50.41	58.16	60.34	56.09
KC351	KC352	KC353	KC354	KC361	KC362	KC363	KC364
49.03	56.52	60.14	54.93	42.50	44.27	51.50	47.15
KC371	KC372	KC373	KC374	KC381	KC382	KC383	KC384
49.62	56.33	60.37	54.28	42.21	48.00	51.20	47.28

15: 0115	SHUTDOWN RODS	GROUP A	RR30=126.45	RR31=126.41	RR32=126.81	RR33=126.36
			RR34=127.26	RR35=126.45	RR36=126.45	RR37=126.72
15: 0115	SHUTDOWN RODS	GROUP B	RR14=127.26	RR15=126.63	RR16=126.72	RR17=126.36
15: 0115	REGULATING RODS	GROUP 1	RR06=126.09	RR08=126.99	RR10=126.54	RR12=126.54
15: 0115	REGULATING RODS	GROUP 2	RR22=126.54	RR23=126.81	RR24=126.63	RR25=126.27
			RR26=126.27	RR27=126.72	RR28=126.72	RR29=126.45
15: 0115	REGULATING RODS	GROUP 3	RR02=126.59	RR03=126.72	RR04=126.99	RR05=126.54
15: 0115	REGULATING RODS	GROUP 4	RR01=105.30	RR38=104.67	RR39=104.31	RR40=104.31
15: 0115	NON-TRIPPABLE RODS	GROUP W	RR18=126.72	RR19=126.45	RR20=126.99	RR21=126.90

TIME	GROUP NAME: CG				DESCRIPTION: DIESEL GENERATOR WITH TEMP				
	Y3276	Y3257	Y3254	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262
	KW	VOLTS	AMPS	HZ	KVAR	KW	VOLTS	AMPS	KVAR
15: 0143	2.428E+03	4.128E+03	390.	59.4	1.503E+03	3.28	1.54	5.859E+02	60.3

T2

DFG F

13.2

BEST COPY SUBMITTED

***** THE TIME IS 15:00
 ***** THE TIME IS 15:00
 TIME

THE DATE IS 06/25/90 *****
 THE DATE IS 06/25/90 *****

TIME	13276	13257	13255	13243	GROUP NAME: DG	OL CRUPTION: DIESEL	GENERATOR WITH TEMP
	KW	VOLTS	AMPS	HZ	13255	13258	13262
					KVARS	VOLTS	HZ
					1.568E+03	1.03	60.3
15: 1:48	2.485E+03	4.188E+03	396.	59.9	3.28	6.117	60.3

T2
 DEG F
 12.5

DATE 6/27/1990

POINT/GROUP TREND REPORT

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
15: 2:44	2.438E+03	4.190E+03	397.	59.8	1.585E+03	3.28	1.03	5.859E-02	60.3	3.20
	T2									
	DEG F									
	-48.2									

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
15: 3:45	2.431E+03	4.190E+03	399.	59.9	1.624E+03	3.28	0.513	5.859E-02	60.3	3.28
	T2									
	DEG F									
	36.6									

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
15: 4:45	2.428E+03	4.184E+03	380.	59.8	1.342E+03	3.28	1.03	5.859E-02	60.3	3.21
	T2									
	DEG F									
	87.1									

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
15: 5:45	2.431E+03	4.184E+03	380.	59.8	1.345E+03	3.28	1.03	5.859E-02	60.3	3.2
	T2									
	DEG F									
	-22.9									

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
15: 6:47	2.431E+03	4.184E+03	382.	59.9	1.338E+03	3.28	0.513	5.859E-02	60.3	3.2

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F
116.

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276
KWY3257
VOLTSY3259
AMPSY3261
HZY3255
KVARY3277
KWY3258
VOLTSY3260
AMPSY3262
HZY325
KVAR

15: 7:48

2.42E+03

383.

59.9

1.392E+03

3.28

0.513

0.117

60.3

3.28

12

DEG F
86.6

15: 7 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276
KWY3257
VOLTSY3259
AMPSY3261
HZY3255
KVARY3277
KWY3258
VOLTSY3260
AMPSY3262
HZY325
KVAR

15: 8:49

2.43E+03

389.

60.8

1.401E+03

3.28

0.513

5.359E-02

60.3

3.28

12

DEG F
84.3

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276
KWY3257
VOLTSY3259
AMPSY3261
HZY3255
KVARY3277
KWY3258
VOLTSY3260
AMPSY3262
HZY325
KVAR

15: 9:49

2.45E+03

385.

59.8

1.421E+03

3.28

0.513

0.117

60.3

3.28

12

DEG F
82.8

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276
KWY3257
VOLTSY3259
AMPSY3261
HZY3255
KVARY3277
KWY3258
VOLTSY3260
AMPSY3262
HZY325
KVAR

15:10:49

2.455E+03

382.

59.8

1.385E+03

3.28

0.513

5.859E-02

60.3

3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
DEG F
-62.9

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
DEG F

Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256	
KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS	
15:11:58	2.445E+03	4.188E+03	386.	59.5	1.421E+03	3.28	0.513	0.117	60.3	3.28

12
DEG F
27.9

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
DEG F

Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256	
KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS	
15:12:58	2.445E+03	4.188E+03	391.	59.5	1.414E+03	3.28	1.03	0.117	60.3	3.28

12
DEG F
61.0

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
DEG F

Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256	
KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS	
15:13:51	2.445E+03	4.188E+03	386.	59.5	1.450E+02	3.28	0.513	0.117	60.3	3.28

12
DEG F
116.

15:12 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

15:13 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

15:13 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
DEG F

Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256	
KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS	
15:14:56	2.448E+03	4.190E+03	391.	59.5	1.490E+02	3.28	1.03	5.859E-02	60.3	3.28

DATE 6/25/1990

POINT/GRUO NO REPORT

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL

GENERATOR

WITH TEMP

T2

DEG F

129.7

15:15 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL

GENERATOR

WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y32

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVA

15:15:0 2.444E+03

4.190E+03

391.2

59.8

1.500E+03

3.28

1.03

5.859E-02

60.3

3.2

T2

DEG F

129.7

15:15 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL

GENERATOR

WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y32

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVA

15:15:0 2.444E+03

4.190E+03

391.2

59.8

1.526E+03

3.28

0.513

0.117

60.3

3.2

T2

DEG F

129.7

15:15 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL

GENERATOR

WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y32

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVA

15:15:4 2.438E+03

4.192E+03

394.2

59.8

1.539E+03

3.28

0.513

0.117

60.3

3.2

T2

DEG F

111.1

15:18 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL

GENERATOR

WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y32

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVA

15:18:18 2.428E+03

4.192E+03

390.2

59.5

1.513E+03

3.28

1.03

5.859E-02

60.3

3.2

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME 12 GROUP NAME: CG DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

-25.0

15:18 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:20:11	2.425E+03	4.192E+03	399.	59.9	1.506E+03	3.28	1.03	5.859E-02	60.3	3.28

12

DEG F

-63.5

15:19 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:21:14	2.425E+03	4.192E+03	399.	60.0	1.532E+03	3.28	1.03	5.859E-02	60.3	3.28

12

DEG F

59.3

15:20 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:22:15	2.422E+03	4.194E+03	393.	59.9	1.565E+03	3.28	0.913	5.859E-02	60.3	3.28

12

DEG F

17.1

TIME 12 GROUP NAME: CG DESCRIPTION: DIESEL GENERATOR WITH TEMP

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:23:15	2.418E+03	4.174E+03	394.	59.8	1.572E+03	3.28	0.913	0.117	60.3	3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

T2
DEG F
80.9

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256	
KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS	
15124:18	2.418E+03	4.194E+03	595.	1.1E	1.598E+03	3.28	1.03	0.000	60.3	3.28

T2
DEG F
72.8

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256	
KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS	
15125:18	2.418E+03	4.194E+03	595.	1.1E	1.608E+03	3.28	1.03	5.859E-02	60.3	3.28

T2
DEG F
60.3

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256	
KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS	
15126:18	2.418E+03	4.194E+03	595.	1.1E	1.595E+03	3.28	0.513	5.859E-02	60.3	3.28

T2
DEG F
8.66

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256	
KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS	
15127:18	2.418E+03	4.194E+03	595.	1.1E	1.605E+03	3.28	0.513	5.859E-02	60.3	3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

I2

DEG F

61.1

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

TIME

Y3276

Y3257

Y3259

Y3261

GROUP NAME: DG

Y3255

Y3277

Y3258

Y3260

Y3262

Y325

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

15:12H:20 2.415E+03

4.196E+03

394.

60.0

1.618E+02

3.28

1.03

5.859E-02

60.3

3.28

I2

DEG F

61.4

TIME

Y3276

Y3257

Y3259

Y3261

GROUP NAME: DG

Y3255

Y3277

Y3258

Y3260

Y3262

Y325

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

15:12H:20 2.412E+03

4.196E+03

393.

60.0

1.582E+03

3.28

0.513

0.117

60.3

3.28

I2

DEG F

80.9

TIME

Y3276

Y3257

Y3259

Y3261

GROUP NAME: DG

Y3255

Y3277

Y3258

Y3260

Y3262

Y325

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

15:13H:20 2.415E+03

4.196E+03

394.

59.5

1.601E+02

3.28

1.54

0.000

60.3

3.28

I2

DEG F

81.2

TIME

Y3276

Y3257

Y3259

Y3261

GROUP NAME: DG

Y3255

Y3277

Y3258

Y3260

Y3262

Y325

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

15:13H:21 2.408E+03

4.196E+03

394.

59.8

1.601E+02

3.28

1.54

5.859E-02

60.3

3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

T2
DEG F
81.6

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:32:21	2.415E+03	4.198E+03	396.	60.0	1.634E+03	3.28	1.03	0.117	60.3	3.28

T2
DEG F
81.5

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:33:23	2.412E+03	4.198E+03	397.	60.0	1.650E+03	3.28	0.513	0.117	60.3	3.28

T2
DEG F
81.6

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:34:23	2.408E+03	4.198E+03	399.	59.8	1.673E+03	3.28	1.03	0.117	60.3	3.28

T2
DEG F
-62.9

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:35:24	2.415E+03	4.198E+03	400.	59.8	1.673E+03	3.28	1.03	5.859E-02	60.3	3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

-24.4

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

15:44:28 2.425E+03

4.192E+03

377.

59.6

1.316E+03

3.28

1.03

0.117

60.3

3.28

12

DEG F

48.9

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

15:45:29 2.427E+03

4.192E+03

377.

59.5

1.329E+03

3.28

0.513

5.859E-02

60.3

3.28

12

DEG F

63.2

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

15:46:29 2.418E+03

4.192E+03

376.

59.4

1.322E+03

3.28

1.54

5.859E-02

60.3

3.28

12

DEG F

-41.8

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

15:47:30 2.415E+03

4.194E+03

377.

59.5

1.329E+03

3.28

0.513

5.859E-02

60.3

3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME GROUP NAME: DG DESCRIPTION: DIESEL GENERATOR WITH TEMP

I2

DEG F

-25.5

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:14:30	2.418E+03	4.194E+03	379.	60.0	1.365E+03	3.28	1.54	5.859E-02	60.3	3.28

I2

DEG F

35.8

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:14:30	2.422E+03	4.174E+03	380.	60.0	1.378E+03	3.28	0.513	5.859E-02	60.3	3.28

I2

DEG F

-51.1

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:15:30	2.418E+03	4.194E+03	382.	60.0	1.408E+03	3.28	0.513	5.859E-02	60.3	3.28

I2

DEG F

94.0

15:50 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:51:33	2.422E+03	4.192E+03	383.	60.0	1.417E+03	3.28	1.03	0.117	60.3	3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

T2

DEG F

-29.6

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVARs

19:52:33 2.415E+03 4.194E+03 381. 60.0 1.395E+03 3.28 1.03 0.117 60.3 3.28

T2

DEG F

3.73

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVARs

19:53:34 2.422E+03 4.194E+03 383. 60.0 1.427E+03 3.28 1.03 5.859E-02 60.3 3.28

T2

DEG F

47.6

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVARs

19:54:34 2.425E+03 4.194E+03 384. 59.8 1.434E+03 3.28 0.513 0.117 60.3 3.28

T2

DEG F

37.6

6/25/90 15:55: R AZIMUTHAL TILT

SAFETY CHANNELS

DETECTORS	TILT (X)	ANGLE (DEG)	HARMONIC INDEX
UPPER	0.37	-23.	1.002
LOWER	0.48	-48.	1.001
SUMMED	0.24	-2.	1.002

SAFETY CHANNELS A AND D - CONTROL CHANNELS A AND B

DETECTORS	TILT (X)	ANGLE (DEG)	HARMONIC INDEX
UPPER	0.34	-16.	0.995
LOWER	0.37	-47.	0.993
SUMMED	0.23	5.	0.994

SAFETY CHANNELS B AND C - CONTROL CHANNELS A AND B

DETECTORS	TILT (X)	ANGLE (DEG)	HARMONIC INDEX
UPPER	0.37	-15.	0.994
LOWER	0.38	74.	0.993
SUMMED	0.23	40.	0.994

VECTOR AVERAGE	TILT (X)	ANGLE (DEG)	TILT	ANGLE
UPPER DETECTORS	0.34	-72.	1.080	1112
LOWER DETECTORS	0.25	-71.	8.089	
SUMMED DETECTORS	0.22	74.		

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	DESCRIPTION: DIESEL	GENERATOR	WITH TEMP
15:55:34	2.418E+03 KW	4.194E+03 VOLTS	58A. AMPS	59.8 HZ	Y3255 KVARs	Y3277 MW	Y3260 AMPS	Y3262 HZ
					1.434E+03	5.28	0.117	60.3
								3.28

Y3254
KVARs
3.28

DATE 6/25/1998

POINT/GROUP TREND REPORT

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

86.1

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KV

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

14:56:35

2.425E+03

4.194E+02

389.

59.5

1.450E+02

3.28

0.513

5.859E-02

60.3

3.28

12

DEG F

10.8

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KV

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

14:57:35

2.428E+03

4.194E+03

387.

60.0

1.470E+02

3.28

1.03

5.859E-02

60.3

3.28

12

DEG F

83.9

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KV

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

14:58:35

2.428E+03

4.194E+03

389.

59.5

1.496E+02

3.28

0.513

5.859E-02

60.3

3.28

12

DEG F

-29.5

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KV

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

14:59:36

2.425E+03

4.194E+03

389.

59.5

1.500E+02

3.28

0.513

5.859E-02

60.3

3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

T2

DEG F

61.4

TIME	T3106	T3107	T3108	T3109	GROUP NAME: RCPA	DESCRIPTION: REACTOR COOLANT PUMP A	L3101	L3102	P3116	P3118	P311
	DEG F	DEG F	DEG F	DEG F	T3104				PSIG	PSIG	PSIG
					DEG C						
15:59:36	191.	154.	139.	135.	70.8		83.4	99.6	68.8	725.	1.354
	T3113	T3114	T3268	T212							
	DEG F	DEG F	KW	GPM							
	116.	135.	1.970E+03	64.7							

TIME	T3126	T3127	T3128	T3129	GROUP NAME: RCPB	DESCRIPTION: REACTOR COOLANT PUMP B	L3121	L3122	P3136	P3138	P313
	DEG F	DEG F	DEG F	DEG F	T3124				PSIG	PSIG	PSIG
					DEG C						
15:59:36	170.	147.	124.	138.	75.9		84.2	99.7	68.4	764.	1.387
	T3133	T3134	T3269	T212							
	DEG F	DEG F	KW	GPM							
	115.	133.	2.016E+03	64.7							

TIME	T3146	T3147	T3148	T3149	GROUP NAME: RCPD	DESCRIPTION: REACTOR COOLANT PUMP C	L3141	L3142	P3156	P3158	P315
	DEG F	DEG F	DEG F	DEG F	T3144				PSIG	PSIG	PSIG
					DEG C						
15:59:36	171.	155.	129.	134.	80.1		85.7	100.	68.8	663.	1.301
	T3153	T3154	T3270	T212							
	DEG F	DEG F	KW	GPM							
	115.	116.	2.002E+03	64.7							

TIME	T3166	T3167	T3168	T3169	GROUP NAME: RCPD	DESCRIPTION: REACTOR COOLANT PUMP D	L3161	L3162	P3176	P3178	P317
	DEG F	DEG F	DEG F	DEG F	T3164				PSIG	PSIG	PSIG
					DEG C						
15:59:36	175.	148.	135.	137.	66.6		88.7	102.	69.3	729.	

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME	GROUP NAME: ACID		DESCRIPTION: REACTOR COOLANT PUMP D	
T3173	T3174	Y3271	F212	
DEG F	DEG F	KW	GPM	
113.	133.	2.026E+03	64.7	

TIME	GROUP NAME: CIRC					DESCRIPTION: CIRCULATOR BRG TEMPS				
T1906A	T1907A	T1908A	T1909A	T1906B	T1907B	T1908B	T1909B	T1906C	T1907C	T1908C
DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F
15159136 140.	121.	170.	118.	143.	117.	171.	99.4	153.	122.	
T1908C	T1909C	L1900								
DEG F	DEG F	FT								
173.	117.	989.								

TIME	GROUP NAME: FWHR					DESCRIPTION: FEED AND HEATER DRAIN PUMPS				
T1152A	T1152B	T1152C	T1218A	T1218B	T1153A	T1153B	T1153C	T1219A	T1219B	T1219C
DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F
15159136 126.	130.	87.8	145.	165.	130.	134.	116.	118.	109.	
T1154A	T1154B	T1154C			T1155A	T1155B	T1155C	T1218C		
DEG F	DEG F	DEG F			DEG F	DEG F	DEG F	DEG F		
137.	126.	92.0	0.000	0.000	148.	135.	91.0	109.	0.000	
T1156A	T1156B	T1156C	T1219C							
DEG F	DEG F	DEG F	DEG F							
106.	102.	90.5	118.							

6/25/90 16:01:4	HOURLY	CEA	INSERTION	DURATION	FW-DAY	LOG
24H	24H	CYA	300A	300	10A	
384.7	0.0	1151.2	1151.2	27111.6	0.0	

16: 0 6-25-1990

HOURLY FLUX VALUES

XC111 13.66	XC112 15.53	XC113 16.35	XC114 14.93	XC121 17.36	XC122 17.74	XC123 18.68	XC124 16.62
XC131 16.55	XC132 19.70	XC133 20.26	XC134 16.58	XC141 17.36	XC142 19.84	XC143 20.67	XC144 16.84
XC151 45.48	XC152 52.59	XC153 53.58	XC154 46.73	XC161 38.89	XC162 44.58	XC163 45.13	XC164 40.48
XC171 39.51	XC172 45.31	XC173 46.28	XC174 42.07	XC181 35.27	XC182 45.00	XC183 46.32	XC184 42.51
XC191 44.75	XC192 57.04	XC193 58.33	XC194 50.53	XC201 50.46	XC202 57.21	XC203 58.10	XC204 48.94
XC211 57.72	XC212 66.28	XC213 68.93	XC214 62.43	XC221 58.19	XC222 67.05	XC223 68.87	XC224 61.85
XC231 35.65	XC232 32.21	XC233 37.57	XC234 36.54	XC241 54.72	XC242 62.45	XC243 64.96	XC244 58.31
XC251 51.21	XC252 58.16	XC253 60.70	XC254 56.23	XC261 35.66	XC262 62.82	XC263 65.65	XC264 58.85
XC271 54.88	XC272 62.78	XC273 64.38	XC274 55.32	XC281 54.64	XC282 62.30	XC283 65.10	XC284 59.55
XC291 54.15	XC292 62.29	XC293 64.99	XC294 59.88	XC301 54.76	XC302 62.37	XC303 65.47	XC304 59.78
XC311 55.42	XC312 62.84	XC313 65.07	XC314 58.83	XC321 56.20	XC322 64.69	XC323 68.39	XC324 61.95
XC331 55.71	XC332 63.66	XC333 66.76	XC334 61.84	XC341 53.93	XC342 61.42	XC343 63.51	XC344 59.17
XC351 52.10	XC352 59.84	XC353 57.43	XC354 58.15	XC361 45.09	XC362 50.95	XC363 54.32	XC364 49.91
XC371 52.65	XC372 59.53	XC373 63.61	XC374 57.44	XC381 44.82	XC382 50.73	XC383 54.01	XC384 50.05

16: 0:13	SHUTDOWN RODS	GROUP A	RR30=126.45	RR31=126.81	RR32=126.81	RR33=126.36
			RR34=127.26	RR35=126.45	RR36=126.45	RR37=126.72
16: 0:13	SHUTDOWN RODS	GROUP B	RR14=127.26	RR15=126.63	RR16=126.72	RR17=126.36
16: 0:13	REGULATING RODS	GROUP 1	RR05=126.09	RR08=126.99	RR10=126.45	RR12=126.54
16: 0:13	REGULATING RODS	GROUP 2	RR22=126.54	RR23=126.81	RR24=126.63	RR25=126.27
			RR26=126.27	RR27=126.72	RR28=126.72	RR29=126.45
16: 0:13	REGULATING RODS	GROUP 3	RR02=126.59	RR03=126.72	RR04=126.99	RR05=126.54
16: 0:13	REGULATING RODS	GROUP 4	RR01=106.38	RR38=105.66	RR39=105.48	RR40=105.39
16: 0:13	NON-TRIPPABLE RODS	GROUP N	RR18=126.72	RR19=126.36	RR20=126.79	RR21=126.90

TIME	GROUP NAME: CG				DESCRIPTION: DIESEL GENERATOR WITH TEMP					
	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y32
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVA
16: 0:43	2.428E+03	4.196E+03	391.	60.0	1.526E+03	3.28	1.03	5.859E+02	60.3	3.2

12
DIG F
-40.6

***** THE TIME IS 16:00 THE DATE IS 06/25/90 *****
***** THE TIME IS 16:00 THE DATE IS 06/25/90 *****

DATE 6/25/1990

PRINT/GROUP TREND REPORT

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16: 1:43	2.431E+03	4.196E+03	392.	60.0	1.542E+03	3.28	0.513	5.859E-02	60.3	3.28

T2

DEG F

-40.3

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16: 2:43	2.431E+03	4.194E+03	401.	59.9	1.654E+03	3.28	0.513	5.859E-02	60.3	3.28

T2

DEG F

107.

16: 2 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16: 3:44	2.425E+03	4.194E+03	400.	59.8	1.647E+03	3.28	1.54	0.800	60.3	3.28

T2

DEG F

99.5

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16: 4:44	2.425E+03	4.194E+03	401.	59.9	1.664E+03	3.28	1.03	0.117	60.3	3.28

T2

DEG F

78.5

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16: 5:44	2.431E+03	4.194E+03	403.	59.9	1.683E+03	3.28	1.03	5.859E-02	60.3	3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME T2 GROUP NAME: DG DESCRIPTION: DIESEL GENERATOR WITH TEMP

T2
DEG F
85.3

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS		VOLTS	AMPS	HZ	KVARS
141 6:44	2.428E+03	4.194E+03	404.	60.0	1.703E+03	4	0.513	0.117	60.3	3.28

T2
DEG F
7.11

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
141 7:45	2.445E+03	4.174E+03	405.	60.5	1.712E+03	3.28	1.03	0.000	60.3	3.28

T2
DEG F
53.4

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
141 8:45	2.435E+03	4.194E+03	404.	60.0	1.719E+03	3.28	0.513	5.859E-02	60.3	3.28

T2
DEG F
97.2

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
141 9:45	2.443E+03	4.128E+03	346.	59.5	-338.	3.28	1.03	0.117	60.3	3.28

DATE 6/25/79

POINT/GROUP TREND REPORT

TIME 12 GROUP NAME: DG DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
DEG F
69.2

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	Y3255	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:11:45	2.441E+03	4.177E+03	376.	60.0	1.247E+03	3.28	1.03	0.000	60.3	3.28	

12
DEG F
98.2

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	Y3255	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:11:48	2.431E+03	4.177E+03	374.	60.0	1.230E+03	3.28	1.03	5.859E-02	60.3	3.28	

12
DEG F
56.8

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	Y3255	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:12:49	2.445E+03	4.177E+03	376.	60.0	1.286E+03	3.28	1.03	0.000	60.3	3.28	

12
DEG F
-2.17

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	Y3255	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:13:49	2.441E+03	4.177E+03	376.	60.0	1.304E+03	3.28	0.513	5.859E-02	60.3	3.28	

DATE 6/25/1990

POINT/GROUP TEND REPORT

TIME 12 GROUP NAME: DG DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
DEG F
-38.2

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3262	Y3256
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS		HZ	KVARS
16:14:50	2.435E+03	4.177E+03	380.	59.9		1.332E+03	3.28	0.513	5.859E+02		60.3	3.28

12
DEG F
60.8

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3262	Y3256
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS		HZ	KVARS
16:15:10	2.431E+03	4.177E+03	370.	59.9		1.327E+03	3.28	0.513	5.839E+02		60.3	3.28

12
DEG F
-27.2

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3262	Y3256
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS		HZ	KVARS
16:16:10	2.431E+03	4.177E+03	380.	60.0		1.339E+03	3.28	1.03	0.117		60.3	3.28

12
DEG F
102.

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3262	Y3256
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS		HZ	KVARS
16:17:53	2.428E+03	4.179E+03	380.	59.5		1.345E+03	3.28	0.513	0.117		60.3	3.28

DATE 6/25/1990

T/GROUP TREND REPORT

TIME GROUP NAME: DG DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
DEG F
135.

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS	HZ	KVAR
16:11:51	2.431E+01	4.179E+03	380.	59.9		1.165E+02	3.28	1.03	0.117	60.3	3.28

12
DEG F
47.0

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS	HZ	KVAR
16:12:51	2.429E+01	4.177E+03	381.	59.9		1.358E+02	3.28	1.03	0.000	60.3	3.28

12
DEG F
-25.2

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS	HZ	KVAR
16:12:52	2.429E+01	4.179E+03	379.	60.0		1.322E+03	3.28	0.513	0.117	60.3	3.28

12
DEG F
-19.2

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS	HZ	KVAR
16:12:53	2.431E+01	4.179E+03	380.	59.9		1.339E+03	3.28	0.513	5.859E-02	60.3	3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME GROUP NAME: DG DESCRIPTION: DIESEL GENERATOR WITH TEMP

T2
DEG F
126.

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:122:53	2.435E+03	4.179E+03	381.	60.0	1.352E+03	3.28	0.513	5.859E-02	60.3	3.28

T2
DEG F
-62.8

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:123:54	2.435E+03	4.179E+03	381.	59.9	1.342E+03	3.18	1.54	5.859E-02	60.3	3.28

T2
DEG F
50.6

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:124:54	2.425E+03	4.162E+03	379.	60.0	1.339E+03	3.28	0.513	0.117	60.3	3.28

T2
DEG F
-58.8

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:125:54	2.428E+03	4.182E+03	380.	59.9	1.342E+03	3.28	1.03	5.859E-02	60.3	3.28

DATE 6/25/1990

POINT/ROUP TREND REPORT

TIME GROUP NAME: CG DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
DEG F
-32.8

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: CG	DESCRIPTION: DIESEL	GENERATOR	WITH TEMP	Y3256
	KW	VOLTS	AMPS	HZ	Y3255	Y3277	Y3258	Y3260	Y3262
					KVARS	KW	VOLTS	AMPS	HZ
16126155	2.425E+03	4.182E+03	381.	60.0	1.365E+03	3.28	0.513	5.859E-02	60.3

12
DEG F
105.

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: CG	DESCRIPTION: DIESEL	GENERATOR	WITH TEMP	Y3256
	KW	VOLTS	AMPS	HZ	Y3255	Y3277	Y3258	Y3260	Y3262
					KVARS	KW	VOLTS	AMPS	HZ
16127155	2.425E+03	4.182E+03	381.	60.0	1.372E+03	3.28	1.03	0.117	60.3

12
DEG F
24.7

16127 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: CG	DESCRIPTION: DIESEL	GENERATOR	WITH TEMP	Y3256
	KW	VOLTS	AMPS	HZ	Y3255	Y3277	Y3258	Y3260	Y3262
					KVARS	KW	VOLTS	AMPS	HZ
16128156	2.425E+03	4.182E+03	381.	60.0	1.401E+03	3.28	0.513	0.117	60.3

12
DEG F
-16.8

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: CG	DESCRIPTION: DIESEL	GENERATOR	WITH TEMP	Y3256
	KW	VOLTS	AMPS	HZ	Y3255	Y3277	Y3258	Y3260	Y3262
					KVARS	KW	VOLTS	AMPS	HZ
16129156	2.425E+03	4.182E+03	381.	60.0	1.417E+03	3.28	1.03	0.000	60.3

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
DEG F
4.02

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3263
	KV	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KV
16130158	2.431E+03	4.182E+03	385.	59.5	1.417E+03	3.28	1.03	0.117	60.3	3.

12
DEG F
62.9

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3263
	KV	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KV
16131158	2.424E+03	4.182E+03	385.	59.5	1.421E+03	3.28	0.513	5.859E-02	60.3	3.

12
DEG F
71.1

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3263
	KV	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KV
16132158	2.424E+03	4.184E+03	385.	59.5	1.421E+03	3.28	1.03	0.117	60.3	3.

12
DEG F
-9.05

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3263
	KV	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KV
16133159	2.431E+03	4.182E+03	385.	60.0	1.434E+03	3.28	1.03	0.117	60.3	3.

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME GROUP NAME: DG DESCRIPTION: DIESEL GENERATOR WITH TEMP

T2
DEG F
86.3

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:34:59	2.431E+03	4.182E+03	386.	59.8		1.434E+03	3.28	1.03	5.859E-02	60.3	3.28

T2
DEG F
83.9

16:34 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:35:58	2.445E+03	4.184E+03	386.	59.5		1.437E+03	3.28	0.513	0.117	60.3	3.28

T2
DEG F
83.4

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:37:00	2.409E+03	4.182E+03	387.	59.8		1.444E+03	3.28	0.513	0.117	60.3	3.28

T2
DEG F
88.5

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:38:00	2.422E+03	4.184E+03	386.	59.8		1.437E+03	3.28	1.54	0.000	60.3	3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
DEG F
-41.1

TIME	Y3276 KW	Y3257 VOLTS	Y3259 AMPS	Y3261 HZ	GROUP NAME: DG Y3255 KVARs	DESCRIPTION: DIESEL GENERATOR WITH TEMP Y3277 KW	Y3258 VOLTS	Y3260 AMPS	Y3262 HZ	Y3263 KVA
16:39: 0	2.422E+03	4.184E+03	387.	59.5	1.447E+03	3.28	1.03	0.000	60.3	3.2

12
DEG F
59.4

TIME	Y3276 KW	Y3257 VOLTS	Y3259 AMPS	Y3261 HZ	GROUP NAME: DG Y3255 KVARs	DESCRIPTION: DIESEL GENERATOR WITH TEMP Y3277 KW	Y3258 VOLTS	Y3260 AMPS	Y3262 HZ	Y3263 KVA
16:40: 2	2.422E+03	4.184E+03	387.	59.5	1.463E+03	3.28	1.03	0.117	60.3	3.2

12
DEG F
81.5

TIME	Y3276 KW	Y3257 VOLTS	Y3259 AMPS	Y3261 HZ	GROUP NAME: DG Y3255 KVARs	DESCRIPTION: DIESEL GENERATOR WITH TEMP Y3277 KW	Y3258 VOLTS	Y3260 AMPS	Y3262 HZ	Y3263 KVA
16:41: 4	2.422E+03	4.184E+03	387.	60.0	1.460E+03	3.28	0.513	5.859E-02	60.3	3.2

12
DEG F
-17.5

TIME	Y3276 KW	Y3257 VOLTS	Y3259 AMPS	Y3261 HZ	GROUP NAME: DG Y3255 KVARs	DESCRIPTION: DIESEL GENERATOR WITH TEMP Y3277 KW	Y3258 VOLTS	Y3260 AMPS	Y3262 HZ	Y3263 KVA
16:42: 4	2.418E+03	4.184E+03	386.	59.5	1.457E+03	3.28	1.03	0.000	60.3	3.2

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME GROUP NAME: CG DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F
-58.8

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3254
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:43: 5	2.418E+03	4.184E+03	388.	59.5	1.483E+03	3.28	1.03	5.859E-02	60.3	3.28

12

DEG F
-17.9

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3254
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:44: 5	2.412E+03	4.184E+03	388.	60.8	1.470E+03	3.28	0.513	5.859E-02	60.3	3.28

12

DEG F
-17.6

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3254
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:45: 5	2.412E+03	4.184E+03	388.	59.5	1.493E+03	3.28	0.513	0.117	60.3	3.28

12

DEG F
-29.5

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3254
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16:46: 8	2.415E+03	4.184E+03	387.	59.5	1.473E+03	3.28	1.03	5.859E-02	60.3	3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

-11.7

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y325

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

16:47: R 2.412E+03

4.184E+03

387.

60.0

1.483E+03

3.28

0.513

0.117

60.3

3.28

12

DEG F

106.

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y325

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

16:48: R 2.412E+03

4.184E+03

387.

60.0

1.477E+03

3.28

1.03

5.859E-02

60.3

3.28

12

DEG F

27.5

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y325

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

16:49: R 2.412E+03

4.184E+03

387.

60.0

1.483E+03

3.28

1.03

0.117

60.3

3.28

12

DEG F

63.5

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y325

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

16:50: R 2.405E+03

4.186E+03

386.

60.0

1.467E+03

3.28

1.03

0.000

60.3

3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME 12 GROUP NAME: DG DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
DEG F
-15.8

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS	HZ	KVAR
16051110	2.402E+03	4.186E+03	384.	59.9		1.457E+03	3.28	0.513	5.859E-02	60.3	3.28

12
DEG F
69.8

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS	HZ	KVAR
16052111	2.402E+03	4.186E+03	384.	59.9		1.457E+03	3.28	1.03	5.859E-02	60.3	3.28

12
DEG F
1.62

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS	HZ	KVAR
16053111	2.399E+03	4.186E+03	383.	59.9		1.450E+03	3.28	1.03	0.117	60.3	3.28

12
DEG F
119.

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ		KVARS	KW	VOLTS	AMPS	HZ	KVAR
16154113	2.407E+03	4.186E+03	386.	59.9		1.486E+03	3.28	0.513	5.859E-02	60.3	3.28

DATE 6/25/1990

TIME

POINT/ENDPOINT TREND REPORT

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
DEG F
41.6

6/25/90 16:55: 6 AZIMUTHAL TILT

SAFETY CHANNELS

DETECTORS	TILT (1)	ANGLE (DEG)	HARMONIC INDEX
UPPER	0.35	-7.	1.482
LOWER	0.49	-50.	1.100
SUMMED	0.27	-10.	1.001

SAFETY CHANNELS A AND B - CONTROL CHANNELS A AND B

DETECTORS	TILT (1)	ANGLE (DEG)	HARMONIC INDEX
UPPER	0.33	0.	0.496
LOWER	0.26	-8.	0.985
SUMMED	0.24	7.	0.293

SAFETY CHANNELS H AND C - CONTROL CHANNELS A AND B

DETECTORS	TILT (1)	ANGLE (DEG)	HARMONIC INDEX
UPPER	0.37	-0.	0.991
LOWER	0.31	62.	0.982
SUMMED	0.20	46.	0.994

VECTOR AVERAGE	TILT (1)	ANGLE (DEG)	TILT1	TILT2
UPPER DETECTORS	0.35	-88.	1.080	8.080
LOWER DETECTORS	0.25	-69.		
SUMMED DETECTORS	0.22	79.		

[illegible][illegible]

TIME	Y3276	Y3257	Y3261	GROUP NAME: EG	DESCRIPTION: DIESEL	GENERATOR	WIND TEMP
	W	VOLTS	W	W	VOLTS	AMPS	
10:25:10	2.4000E+01	6.144E+03	1.0E+00	1.457E+01	5.728	0.000	60.0
				W	W		
	Y3276	Y3257	Y3261	Y3258	Y3277	Y3260	Y3242
	W	VOLTS	W	W	W	AMPS	W
							W
							2.24

0.62
0.31
0.1

[illegible]

DATE 6/25/1980

POINT/GROUP TREND REPORT

TIME

GROUP NAME: EG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

33.7

TIME

GROUP NAME: EG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3266

KW

VOLTS

AMPS

H2

KVA

KW

VOLTS

AMPS

H2

KVA

1.75-0.14 2.50-1.03

-1.1801-0.1

3.03

-5.2

1.4241-0.2

3.24

0-52.5

0-117

60-5

3-2R

12

DEG F

-47.6

6/25/93 17:01:4

HOURLY
24HCTA INSERTION DURATION
24H2 CYA 500AMU-DAY LOG
30D YDA

432.0

1151.7

1151.7

27159.4

0.0

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME GROUP NAME: DG DESCRIPTION: DIESEL GENERATOR WITH TEMP

T2

DEG F
33.7

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
16157014	2.395E+03	4.149E+03	363.	60.0	1.454E+02	3.28	0.513	0.117	60.3	3.28

T2

DEG F
-47.6

6/25/90 17: 01 4	HOURLY	*	CEA	INSERTION	DURATION	*	MW-DAY	LOG
	24H		24H	CYA	300A		300	TDA
	432.5		0.0	1151.2	1151.2		27159.4	0.0

XC111 14.81	XC112 16.73	XC113 17.51	XC114 16.03	XC121 16.62	XC122 19.10	XC123 20.02	XC124 17.83
XC131 17.92	XC132 21.20	XC133 21.71	XC134 17.99	XC141 18.78	XC142 21.32	XC143 22.12	XC144 18.25
XC151 49.10	XC152 56.41	XC153 57.20	XC154 49.94	XC161 42.02	XC162 47.80	XC163 48.15	XC164 43.28
XC171 42.68	XC172 48.64	XC173 49.44	XC174 44.87	XC181 42.44	XC182 48.33	XC183 49.48	XC184 45.18
XC191 51.70	XC192 61.13	XC193 62.20	XC194 54.18	XC201 54.45	XC202 61.34	XC203 62.02	XC204 52.54
XC211 62.32	XC212 71.10	XC213 73.52	XC214 66.62	XC221 62.76	XC222 71.87	XC223 73.44	XC224 69.94
XC231 51.82	XC232 54.14	XC233 40.00	XC234 38.84	XC241 50.07	XC242 67.01	XC243 69.35	XC244 62.30
XC251 55.38	XC252 62.38	XC253 64.79	XC254 60.06	XC261 58.43	XC262 67.39	XC263 70.06	XC264 62.85
XC271 64.27	XC272 67.70	XC273 68.71	XC274 58.95	XC281 58.97	XC282 66.80	XC283 69.55	XC284 63.55
XC291 58.45	XC292 68.78	XC293 69.42	XC294 63.91	XC301 58.16	XC302 66.93	XC303 69.98	XC304 63.83
XC311 54.78	XC312 67.15	XC313 70.59	XC314 62.76	XC321 60.61	XC322 69.40	XC323 73.06	XC324 66.09
XC331 60.16	XC332 68.07	XC333 71.26	XC334 66.01	XC341 58.19	XC342 65.87	XC343 67.79	XC344 63.26
XC351 50.32	XC352 64.07	XC353 67.79	XC354 62.38	XC361 48.73	XC362 54.77	XC363 58.05	XC364 53.55
XC371 56.86	XC372 63.00	XC373 68.00	XC374 61.61	XC381 48.42	XC382 54.50	XC383 57.74	XC384 53.69

17: 0:13	SHUTDOWN RODS	GROUP A	RR30=126.45	RR31=126.81	RR32=126.81	RR33=126.36
			RR34=127.26	RR35=126.45	RR36=126.45	RR37=126.72
17: 0:13	SHUTDOWN RODS	GROUP B	RR14=127.26	RR15=126.63	RR16=126.72	RR17=126.36
17: 0:13	REGULATING RODS	GROUP 1	RR06=126.09	RR08=127.08	RR10=126.54	RR12=126.54
17: 0:13	REGULATING RODS	GROUP 2	RR22=126.54	RR23=126.81	RR24=126.63	RR25=126.27
			RR26=126.27	RR27=126.72	RR28=126.72	RR29=126.45
17: 0:13	REGULATING RODS	GROUP 3	RR02=126.59	RR03=126.72	RR04=127.08	RR05=126.54
17: 0:13	REGULATING RODS	GROUP 4	RR01=127.46	RR38=106.83	RR39=106.74	RR40=106.87
17: 0:13	NON-TRIPPABLE RODS	GROUP N	RR18=126.72	RR19=126.45	RR20=126.99	RR21=126.18

TIME	GROUP NAME: CG				DESCRIPTION: DIESEL GENERATOR WITH TEND					
	Y3274	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
17: 0:14	2.405E+03	3.188E+03	389.	59.5	1.450E+03	3.28	1.03	5.859E+02	60.3	3.28

T2

DEG F

-20.3

TIME	GROUP NAME: RCPA					DESCRIPTION: REACTOR COOLANT PUMP A				
	T3106	T3107	T3105	T3103	T3104	L3101	L3102	P3116	P3118	P3117
	DEG F	DEG F	DEG F	DEG F	DEG C	%	%	PSIG	PSIG	PSIG
170 0:14	192.	192.	159.	155.	71.3	83.5	99.9	63.5	721.	1.352E
	T3113	T3114	Y3268	F212						
	DEG F	DEG F	KW	GPM						
	116.	135.	1.972E+03	75.6						

TIME	GROUP NAME: RCPB					DESCRIPTION: REACTOR COOLANT PUMP B				
	T3124	T3127	T3125	T3123	T3124	L3121	L3122	P3136	P3138	P3137
	DEG F	DEG F	DEG F	DEG F	DEG C	%	%	PSIG	PSIG	PSIG
171 0:14	170.	147.	128.	138.	74.8	84.3	99.5	63.0	761.	1.385E

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME	GROUP NAME: RCPB				DESCRIPTION: REACTOR COOLANT PUMP B					
	T3133	T3134	T3265	T212						
	DEG F	DEG F	KW	GPM						
	115.	133.	2.013E+03	75.6						
TIME	GROUP NAME: RCPB				DESCRIPTION: REACTOR COOLANT PUMP C					
	T3146	T3147	T3145	T3143	T3144	L3141	L3142	P3156	P3158	P3157
	DEG F	DEG F	DEG F	DEG F	DEG C	°	°	PSIG	PSIG	PSIG
17: 0:14	172.	154.	127.	154.	79.9	85.7	101.	63.5	664.	1.302E
	T3153	T3154	T3270	T212						
	DEG F	DEG F	KW	GPM						
	114.	136.	1.998E+03	75.6						
TIME	GROUP NAME: RCPD				DESCRIPTION: REACTOR COOLANT PUMP D					
	T3166	T3167	T3165	T3163	T3164	L3161	L3162	P3176	P3178	P3177
	DEG F	DEG F	DEG F	DEG F	DEG C	°	°	PSIG	PSIG	PSIG
17: 0:14	175.	147.	135.	157.	67.2	88.7	102.	64.0	726.	1.349E
	T3173	T3174	T3271	T212						
	DEG F	DEG F	KW	GPM						
	119.	134.	2.039E+03	76.5						
TIME	GROUP NAME: CIRC				DESCRIPTION: CIRCULATOR BRG TEMPS					
	T1906A	T1907A	T1908A	T1909A	T1906B	T1907B	T1908B	T1909B	T1906C	T1907C
	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F
17: 0:14	140.	122.	170.	119.	144.	117.	172.	99.6	153.	122.
	T1908C	T1909C	T1906							
	DEG F	DEG F	°F							
	173.	117.	989.							
TIME	GROUP NAME: FWHTR				DESCRIPTION: FEED AND HEATER DRAIN PUMPS					
	T1152A	T1152B	T1152C	T1218A	T1218B	T1153A	T1153B	T1153C	T1219A	T1219B
	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F	DEG F
17: 0:14	126.	130.	89.0	145.	165.	132.	136.	124.	119.	110.

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME	13276 KW	13257 VOLTS	13259 AMPS	13261 HZ	GROUP NAME: CG KVARs	13277 KW	DESCRIPTION: DIESEL VOLTS	13267 AMPS	GENERATOR 5.859E-02	WITH TEMP HZ	13256 KVARs
17: 4:20	2.405E+03	4.188E+03	385.	60.0	1.473E+03	3.28	1.03			60.3	3.28

12
DEC F
38.7

TIME	13276 KW	13257 VOLTS	13259 AMPS	13261 HZ	GROUP NAME: CG KVARs	13277 KW	DESCRIPTION: DIESEL VOLTS	13267 AMPS	GENERATOR 5.859E-02	WITH TEMP HZ	13256 KVARs
17: 5:20	2.594E+03	4.190E+03	385.	59.8	1.477E+03	3.28	0.513			60.3	3.28

12
DEC F
112.

TIME	13276 KW	13257 VOLTS	13259 AMPS	13261 HZ	GROUP NAME: CG KVARs	13277 KW	DESCRIPTION: DIESEL VOLTS	13267 AMPS	GENERATOR 0.000	WITH TEMP HZ	13256 KVARs
17: 6:22	2.402E+03	4.190E+03	386.	60.0	1.490E+03	3.28	1.03			60.3	3.28

12
DEC F
8.52

TIME	13276 KW	13257 VOLTS	13259 AMPS	13261 HZ	GROUP NAME: CG KVARs	13277 KW	DESCRIPTION: DIESEL VOLTS	13267 AMPS	GENERATOR 0.317	WITH TEMP HZ	13256 KVARs
17: 7:23	2.395E+03	4.188E+03	388.	60.0	1.516E+03	3.28	1.03			60.3	3.28

12
DEC F
50.1

TIME	13276 KW	13257 VOLTS	13259 AMPS	13261 HZ	GROUP NAME: CG KVARs	13277 KW	DESCRIPTION: DIESEL VOLTS	13267 AMPS	GENERATOR 5.859E-02	WITH TEMP HZ	13256 KVARs
17: 8:23	2.395E+03	4.190E+03	386.	59.8	1.503E+03	3.28	0.513			60.3	3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

T2

DEG F

100.

17:7 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:10:25	2.399E+03	4.190E+01	387.	59.9	1.503E+03	3.28	1.03	0.117	60.3	3.28

T2

DEG F

118.9

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:10:25	2.405E+03	4.190E+01	387.	59.9	1.516E+03	3.28	1.03	0.000	60.3	3.28

T2

DEG F

122.7

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:11:25	2.405E+03	4.190E+01	387.	59.9	1.529E+03	3.28	1.03	5.859E-02	60.3	3.28

T2

DEG F

162.4

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:12:26	2.399E+03	4.190E+01	387.	59.9	1.516E+03	3.28	1.03	5.859E-02	60.3	3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME 12
DEG F
58.9

GROUP NAME: CG DESCRIPTION: DIESEL GENERATOR WITH TEMP

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:13:26	2.389E+03	4.190E+03	386.	60.5	1.513E+03	3.28	1.03	5.859E-02	60.3	3.28
12										
DEG F										
117.										

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:14:28	2.389E+03	4.192E+03	386.	60.0	1.514E+03	3.28	0.513	5.859E-02	60.3	3.28
12										
DEG F										
-44.1										

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:15:28	2.382E+03	4.192E+03	385.	60.5	1.513E+03	3.28	1.54	5.859E-02	60.3	3.28
12										
DEG F										
4.16										

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:16:28	2.389E+03	4.192E+03	388.	60.0	1.536E+03	3.28	1.03	5.859E-02	60.3	3.2

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME GROUP NAME: DG DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

-52.0

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3277	Y3258	Y3260	Y3262	Y3263
	KW	VOLTS	AMPS	HZ	Y3255		KW	VOLTS	AMPS	HZ	KVA
17:17:29	2.345E+03	4.192E+03	387.	60.0	KVARS		3.26	1.03	5.859E-02	60.3	3.27

12

DEG F

-54.6

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3277	Y3258	Y3260	Y3262	Y3263
	KW	VOLTS	AMPS	HZ	Y3255		KW	VOLTS	AMPS	HZ	KVA
17:18:29	2.382E+03	4.192E+03	388.	60.0	KVARS		3.28	0.513	0.117	60.3	3.2

12

DEG F

103.

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3277	Y3258	Y3260	Y3262	Y3263
	KW	VOLTS	AMPS	HZ	Y3255		KW	VOLTS	AMPS	HZ	KVA
17:19:29	2.422E+03	4.192E+03	394.	60.0	KVARS		3.28	1.03	0.117	60.3	3.2

12

DEG F

-21.3

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: DG	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3277	Y3258	Y3260	Y3262	Y3263
	KW	VOLTS	AMPS	HZ	Y3255		KW	VOLTS	AMPS	HZ	KVA
17:20:30	2.418E+03	4.190E+03	390.	60.0	KVARS		3.28	1.03	5.859E-02	60.3	3.2

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME GROUP NAME: DG DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

6.500

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:21:10	2.418E+03	4.190E+03	391.	60.0	1.536E+03	3.28	1.03	0.000	60.3	3.28

12

DEG F

62.9

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:22:10	2.418E+03	4.190E+03	391.	59.9	1.536E+03	3.28	0.513	5.859E-02	60.3	3.28

12

DEG F

30.9

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:23:10	2.418E+03	4.190E+03	390.	60.0	1.532E+03	3.28	1.03	0.117	60.3	3.28

12

DEG F

-35.5

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:24:13	2.418E+03	4.190E+03	391.	59.9	1.542E+03	3.28	0.513	0.117	60.3	3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME 12 GROUP NAME: CG DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
DEG F
-5.69

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: CG	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3277	Y3258	Y3260	Y3262	Y3263
	KW	VOLTS	AMPS	HZ	Y3255	KVAR	KW	VOLTS	AMPS	HZ	KVAR
17:25:53	2.412E+03	4.190E+03	393.	60.0	1.562E+03	3.28	1.03	5.859E-02	60.3	3.28	3.28

12
DEG F
36.2

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: CG	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3277	Y3258	Y3260	Y3262	Y3263
	KW	VOLTS	AMPS	HZ	Y3255	KVAR	KW	VOLTS	AMPS	HZ	KVAR
17:26:54	2.415E+03	4.192E+03	393.	60.0	1.552E+03	3.28	0.513	5.859E-02	60.3	3.28	3.28

12
DEG F
-52.2

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: CG	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3277	Y3258	Y3260	Y3262	Y3263
	KW	VOLTS	AMPS	HZ	Y3255	KVAR	KW	VOLTS	AMPS	HZ	KVAR
17:27:14	2.415E+03	4.196E+03	392.	60.0	1.562E+03	3.28	1.03	5.859E-02	60.3	3.2	3.2

12
DEG F
99.6

17:27 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

TIME	Y3276	Y3257	Y3259	Y3261	GROUP NAME: CG	DESCRIPTION: DIESEL GENERATOR WITH TEMP	Y3277	Y3258	Y3260	Y3262	Y3263
	KW	VOLTS	AMPS	HZ	Y3255	KVAR	KW	VOLTS	AMPS	HZ	KVAR
17:28:35	2.408E+03	4.190E+03	392.	60.0	1.562E+03	3.28	1.03	5.859E-02	60.3	3.2	3.2

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

70.7

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y325

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

17:12:15

2.41E+03

4.19E+03

394.

59.5

1.57E+03

3.28

1.03

5.85E-02

60.3

3.28

12

DEG F

-37.9

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y325

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

17:13:15

2.42E+03

4.19E+03

394.

59.5

1.59E+03

3.28

1.03

5.85E-02

60.3

3.27

12

DEG F

-12.0

7

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y325

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

17:13:15

2.41E+03

4.19E+03

394.

59.5

1.58E+03

3.28

0.513

5.85E-02

60.3

3.2

12

DEG F

73.9

7

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y325

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

17:13:16

2.41E+03

4.19E+03

395.

59.5

1.58E+03

3.28

1.03

5.85E-02

60.3

3.2

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

8.52

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:33:38	2.41E+03	4.142E+03	394	59.5	1.598E+03	3.28	1.03	0.000	60.3	3.28

12

DEG F

-11.6

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:34:39	2.461E+03	4.177E+03	374	60.0	1.237E+03	3.28	1.03	5.859E-02	60.3	3.28

12

DEG F

-12.2

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:35:40	2.441E+03	4.177E+03	374	60.0	1.230E+03	3.28	1.03	5.859E-02	60.3	3.28

12

DEG F

-49.6

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y325
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVAR
17:36:40	2.448E+03	4.177E+03	374	59.8	1.240E+03	3.28	1.03	0.117	60.3	3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

76.2

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
17:57:40	2.455E+03	4.177E+03	375.	60.0	1.247E+03	3.28	1.03	0.117	60.3	3.28

12

DEG F

-43.8

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
17:58:41	2.408E+03	4.186E+03	387.	60.0	1.480E+03	3.28	1.54	5.859E-02	60.3	3.28

12

DEG F

-60.7

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
17:59:43	2.417E+03	4.186E+03	384.	60.0	1.490E+03	3.28	0.13	0.117	60.3	3.28

12

DEG F

-25.0

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
17:40:43	2.405E+03	4.186E+03	388.	60.0	1.504E+03	3.28	1.03	0.117	60.3	3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

-12.7

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

17:41:43

2.405E+03

4.186E+03

387.

60.0

1.490E+03

3.28

1.03

5.859E-02

60.3

3.28

12

DEG F

22.0

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

17:42:43

2.395E+03

4.186E+03

387.

60.0

1.506E+03

3.28

1.54

5.859E-02

60.3

3.28

12

DEG F

87.3

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

17:43:44

2.402E+03

4.186E+03

387.

60.0

1.516E+03

3.28

0.513

0.117

60.3

3.28

12

DEG F

78.5

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

17:44:44

2.412E+03

4.186E+03

387.

60.0

1.536E+03

3.28

0.513

0.117

60.3

3.28

DATE 6/23/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

104.

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVARs

17:45:44 2.417E+03 4.186E+03 393. 60.0 1.562E+03 3.28 0.513 5.859E-02 60.3 3.28

12

DEG F

-33.4

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVARs

17:46:45 2.412E+03 4.184E+03 393. 60.0 1.562E+03 3.28 1.03 0.117 60.3 3.28

12

DEG F

-2.31

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVARs

17:47:45 2.408E+03 4.177E+03 376. 60.0 1.316E+03 3.28 1.03 5.859E-02 60.3 3.28

12

DEG F

86.4

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVARs

17:48:45 2.418E+03 4.179E+03 378. 59.5 1.332E+03 3.28 1.54 5.859E-02 60.3 3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: EG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

I2

DEG F

-57.4

TIME

GROUP NAME: EG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVARs

17:49:46

2.431E+03

4.179E+03

381.4

60.0

1.349E+03

3.28

1.03

5.859E-02

60.3

3.28

I2

DEG F

84.2

TIME

GROUP NAME: EG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVARs

17:50:48

2.428E+03

4.179E+03

382.4

60.0

1.365E+03

3.28

0.513

5.859E-02

60.3

3.28

I2

DEG F

97.0

TIME

GROUP NAME: EG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVARs

17:51:48

2.425E+03

4.179E+03

382.4

60.0

1.385E+03

3.28

1.03

5.859E-02

60.3

3.28

I2

DEG F

-55.3

TIME

GROUP NAME: EG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVARs

17:52:48

2.418E+03

4.179E+03

381.4

59.5

1.368E+03

3.28

1.03

0.117

60.3

3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

I2

DEG F

117-

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y325

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

17:53:51 2.412E+03 4.179E+03 379. 60.6 1.355E+03 3.28 1.03 0.117 60.3 3.28

I2

DEG F

-16.8

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y325

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

17:54:51 2.485E+03 4.182E+03 379. 60.5 1.365E+03 3.28 1.03 0.117 60.3 3.28

I2

DEG F

88.8

6/25/90 17:55: 8 AZIMUTHAL TILT

SAFETY CHANNELS

DETECTORS	TILT (°)	ANGLE (DEG)	HARMONIC INDEX
UPPER	0.40	-0.	1.001
LOWER	0.57	-45.	1.001
SUMMED	0.36	-10.	1.001

SAFETY CHANNELS A AND B - CONTROL CHANNELS A AND B

DETECTORS	TILT (°)	ANGLE (DEG)	HARMONIC INDEX
UPPER	0.48	-12.	1.001
LOWER	0.29	-16.	0.997
SUMMED	0.81	14.	0.998

SAFETY CHANNELS B AND C - CONTROL CHANNELS A AND B

DETECTORS	TILT (°)	ANGLE (DEG)	HARMONIC INDEX
UPPER	0.38	-14.	0.995
LOWER	0.29	62.	0.994
SUMMED	0.17	32.	0.997

VECTER AVERAGE	TILT (°)	ANGLE (DEG)	TILT	TILT2
UPPER DETECTORS	0.40	-81.	1.080	8.080
LOWER DETECTORS	0.29	-74.		
SUMMED DETECTORS	0.27	83.		

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

104.

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3254

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

17:57:03 2.450E+03

4.182E+03

387.

60.0

1.395E+02

3.28

1.03

5.6. 1E-02

60.3

3.28

12

DEG F

51.7

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

6

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3254

KI

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

17:58:53 2.440E+03

4.184E+03

387.

60.0

1.388E+02

3.28

0.513

5.659E-02

60.3

3.28

12

DEG F

-27.1

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3254

KW

VOLTS

AMPS

HZ

KVAR

KW

VOLTS

AMPS

HZ

KVAR

17:59:03 2.440E+03

4.182E+03

387.

60.0

1.427E+02

3.28

1.03

0.117

60.3

3.28

12

DEG F

19.2

6/25/90 18:01:5

HOURLY
24H

*

CEA INJECTION DURATION
24HR CYA 300A

*

HW-LAY LOG
300 TDA

484.0

0.0

1151.7

1251.2

27210.9

0.0

18: 0 6-25-1988

HOURLY FLUX VALUES

KC111	KC112	KC113	KC114	KC121	KC122	KC123	KC124
14.05	18.07	18.85	17.32	19.06	20.41	21.55	19.76

KC131	KC132	KC133	KC134	KC141	KC142	KC143	KC144
19.45	22.87	23.35	19.83	26.57	22.49	23.79	20.89

KC151	KC152	KC153	KC154	KC161	KC162	KC163	KC164
55.18	60.64	61.38	53.79	45.50	51.40	51.62	46.65

KC171	KC172	KC173	KC174	KC181	KC182	KC183	KC184
46.21	52.33	53.03	48.28	45.95	52.01	53.08	48.56

KC191	KC192	KC193	KC194	KC201	KC202	KC203	KC204
58.13	47.66	46.60	54.65	58.93	65.87	66.46	57.14

KC211	KC212	KC213	KC214	KC221	KC222	KC223	KC224
67.44	76.43	78.75	71.49	67.88	77.20	78.59	70.72

KC231	KC232	KC233	KC234	KC241	KC242	KC243	KC244
47.32	79.10	42.93	41.70	67.92	72.02	74.31	67.08

KC251	KC252	KC253	KC254	KC261	KC262	KC263	KC264
59.87	67.05	69.41	64.54	64.30	72.48	75.09	67.63

KC271	KC272	KC273	KC274	KC281	KC282	KC283	KC284
64.09	72.31	72.42	63.44	67.82	71.87	74.57	68.33

KC291	KC292	KC293	KC294	KC301	KC302	KC303	KC304
63.24	71.84	71.42	68.68	64.01	72.06	75.01	68.62

KC311	KC312	KC313	KC314	KC321	KC322	KC323	KC324
64.64	72.41	75.63	67.36	65.64	74.68	78.35	71.18

KC331	KC332	KC333	KC334	KC341	KC342	KC343	KC344
65.05	73.39	76.39	70.97	62.59	70.84	72.63	68.15

KC351	KC352	KC353	KC354	KC361	KC362	KC363	KC364
60.98	69.20	72.78	67.59	52.77	58.99	62.31	58.03

KC371	KC372	KC373	KC374	KC381	KC382	KC383	KC384
61.55	68.75	72.96	66.75	52.41	58.68	62.80	58.13

18: 0:36 SHUTDOWN RODS	GROUP 8	RR10=126.45	RR31=126.90	RR32=126.72	RR33=126.36
		RR34=127.24	RR35=126.45	RR36=126.45	RR37=126.72

18: 0:36 SHUTDOWN RODS	GROUP 8	RR14=127.26	RR15=126.63	RR16=126.72	RR17=126.36
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18: 0:36 REGULATING RODS	GROUP 1	RR06=126.09	RR08=127.08	RR10=126.54	RR12=126.54
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18: 0:36 REGULATING RODS	GROUP 2	RR22=126.54	RR23=126.81	RR24=126.63	RR25=126.27
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		RR26=126.27	RR27=126.72	RR28=126.72	RR29=126.45
--	--	-------------	-------------	-------------	-------------

18: 0:36 REGULATING RODS	GROUP 3	RR02=126.98	RR03=126.72	RR04=126.99	RR05=126.54
--------------------------	---------	-------------	-------------	-------------	-------------

18: 0:36 REGULATING RODS	GROUP 4	RR01=109.98	RR38=109.35	RR39=109.26	RR40=108.90
--------------------------	---------	-------------	-------------	-------------	-------------

18: 0:36 NON-TRIPPABLE RODS	GROUP N	RR18=126.72	RR19=126.36	RR20=126.99	RR21=126.90
-----------------------------	---------	-------------	-------------	-------------	-------------

***** THE TIME IS 18:00 THE DATE IS 06/25/88 *****

***** THE TIME IS 18:00 THE DATE IS 06/25/88 *****

TIME	Y3274	Y3257	Y3259	Y3261	Y3277	Y3258	Y3260	Y3262	Y32
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	KVA
18: 0:54 2.431E+03	4.184E+03	385.	60.0	1.411E+03	3.28	1.03	5.859E+02	60.3	3.2

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

DATE 6/25/1990

POINT/CR JP TREND REPORT

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

 13
 DEG F
 34.7

TIME

GROUP NAME: RCPA

DESCRIPTION: REACTOR COOLANT PUMP A

	T3106	T3107	T3105	T3103	T3104	L3101	L3102	P3116	P3118	P3117
	DEG F	DEG F	DEG F	DEG F	DEG C	%	%	PSIG	PSIG	PSIG
181 0154	191.	152.	139.	135.	71.2	83.7	100.	58.6	717.	1.3500
	T3113	T3114	T3268	T212						
	DEG F	DEG F	KW	GPM						
	116.	134.	1.967E+03	59.6						

TIME

GROUP NAME: RCPB

DESCRIPTION: REACTOR COOLANT PUMP B

	T3126	T3127	T3125	T3123	T3124	L3121	L3122	P3136	P3138	P3137
	DEG F	DEG F	DEG F	DEG F	DEG C	%	%	PSIG	PSIG	PSIG
181 0154	171.	144.	129.	139.	77.3	84.3	99.5	58.6	758.	1.3830
	T3133	T3134	T3269	T212						
	DEG F	DEG F	KW	GPM						
	115.	134.	2.000E+03	59.6						

TIME

GROUP NAME: RCP C

DESCRIPTION: REACTOR COOLANT PUMP C

	T3146	T3147	T3145	T3143	T3144	L3141	L3142	P3156	P3158	P3157
	DEG F	DEG F	DEG F	DEG F	DEG C	%	%	PSIG	PSIG	PSIG
181 0154	7.	153.	129.	135.	80.6	85.6	100.	59.1	661.	1.3000
	T3153	T3154	T3270	T212						
	DEG F	DEG F	KW	GPM						
	114.	136.	1.997E+03	59.6						

TIME

GROUP NAME: RCPD

DESCRIPTION: REACTOR COOLANT PUMP D

	T3166	T3167	T3165	T3163	T3164	L3161	L3162	P3176	P3178	P3177
	DEG F	DEG F	DEG F	DEG F	DEG C	%	%	PSIG	PSIG	PSIG
181 0154	174.	149.	135.	137.	67.8	88.7	102.	59.1	723.	1.3460

DATE 6/25/1990

POINT/GROUP TREAD REPORT

GROUP NAME: RCPO DESCRIPTION: REACTOR COOLANT PUMP D

TIME 1317.5 1317.4 1317.1 1212
 DEG F DEG F KW
 119. 124. 2.044E+03 68.6

GROUP NAME: CIRC DESCRIPTION: CIRCULATOR DRG TEMPS

TIME 1190.4 1190.7 1190.8 1190.7 1190.8 1190.8 1190.8 1190.8
 DEG F DEG F DEG F DEG F DEG F DEG F DEG F DEG F
 122. 122. 122. 117. 172. 99.6 157. 123.

GROUP NAME: FM-TH DESCRIPTION: FEED AND HEATER DRAIN PUMPS

TIME 1115.2 1115.2 1115.2 1115.3 1115.3 1115.3 1115.3 1115.3
 DEG F DEG F DEG F DEG F DEG F DEG F DEG F DEG F
 120. 120. 120. 120. 120. 120. 120. 120.

GROUP NAME: CG DESCRIPTION: DIESEL GENERATOR WITH TEMP

TIME 1327.4 1327.4 1327.4 1327.4 1327.4 1327.4 1327.4 1327.4
 KW VOLTS KW VOLTS KW VOLTS KW VOLTS
 1.59 2.42E+03 4.16E+03 4.16E+03 4.16E+03 4.16E+03 4.16E+03 4.16E+03

DATE 6/25/1980

POINT/GROUP TEND REPORT

TIME

TIME	GROUP NAME: CG	DESCRIPTION: DIESEL GEN	ATOR	WITH TEMP
18: 5: 0 2.438E+03	Y3257 KW	Y3257 VOLTS	Y3257 AMPS	Y3257 HZ
	4.184E+03	386.	59.	60.3

12

REG F

56.3

TIME

TIME	GROUP NAME: CG	DESCRIPTION: DIESEL GENERATOR	WITH TEMP
18: 4: 0 2.431E+03	Y3257 KW	Y3257 VOLTS	Y3257 HZ
	4.184E+03	386.	60.3

12

REG F

56.3

TIME

TIME	GROUP NAME: CG	DESCRIPTION: DIESEL GENERATOR	WITH TEMP
18: 5: 1 2.435E+03	Y3257 KW	Y3257 VOLTS	Y3257 HZ
	4.184E+03	389.	60.3

12

REG F

57.1

TIME

TIME	GROUP NAME: CG	DESCRIPTION: DIESEL GENERATOR	WITH TEMP
18: 6: 1 2.424E+03	Y3257 KW	Y3257 VOLTS	Y3257 HZ
	4.184E+03	388.	60.3

12

REG F

25.0

TIME

TIME	GROUP NAME: CG	DESCRIPTION: DIESEL GENERATOR	WITH TEMP
18: 7: 3 2.425E+03	Y3257 KW	Y3257 VOLTS	Y3257 HZ
	4.184E+03	387.	60.3

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME GROUP NAME: DG DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

-47.6

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3258	Y3260	Y3262	Y3256	
KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS	
18:01:01 R	2.422E+03	4.134E+03	386.4	59.5	1.460E+03	3.28	1.63	0.117	60.3	3.28

12

DEG F

98.1

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS	KVARS
18:01:01 R	2.422E+03	4.134E+03	386.4	59.5	1.470E+03	3.28	0.513	0.117	60.3	3.28

12

DEG F

15.8

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS	KVARS
18:01:01 R	2.422E+03	4.134E+03	386.4	60.0	1.454E+03	3.28	1.54	0.000	60.3	3.28

12

DEG F

92.5

TIME	Y3276	Y3257	Y3259	Y3261	Y3255	Y3277	Y3258	Y3260	Y3262	Y3256
KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS	KVARS
18:01:01 R	2.422E+03	4.134E+03	386.4	59.5	1.457E+03	3.28	1.63	0.117	60.3	3.28

DATE 6/25/1970

POINT/GROUP TREND REPORT

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
DEG F
88.2

TIME	Y3276 KW	Y3257 VOLTS	Y3259 AMPS	Y3261 HZ	GROUP NAME: DG Y3255 KVAR	DESCRIPTION: DIESEL GENERATOR WITH TEMP Y3277 KW	Y3258 VOLTS	Y3260 AMPS	Y3262 HZ	Y325 KVAR
18:11:00	0.4027+03	4.194E+03	385.4	60.0	1.486E+02	3.28	1.03	5.859E-02	60.3	3.2

12
DEG F
12.9

18:11:00 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

TIME	Y3276 KW	Y3257 VOLTS	Y3259 AMPS	Y3261 HZ	GROUP NAME: DG Y3255 KVAR	DESCRIPTION: DIESEL GENERATOR WITH TEMP Y3277 KW	Y3258 VOLTS	Y3260 AMPS	Y3262 HZ	Y325 KVAR
18:11:00	65.4	4.249E+03	34.5	60.0	59.1	3.28	1.54	5.854E-02	60.3	3.2

12
DEG F
34.0

18:11:00 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 1

18:11:00 CRITICAL ALARM ACKNOWLEDGED AT ZONE # 2

TIME	Y3276 KW	Y3257 VOLTS	Y3259 AMPS	Y3261 HZ	GROUP NAME: DG Y3255 KVAR	DESCRIPTION: DIESEL GENERATOR WITH TEMP Y3277 KW	Y3258 VOLTS	Y3260 AMPS	Y3262 HZ	Y325 KVAR
18:14:10	0.000	2.125E+03	-2.93	59.7	-3.28	3.28	1.03	5.859E-02	60.3	3.2

12
DEG F
-23.4

TIME	Y3276 KW	Y3257 VOLTS	Y3259 AMPS	Y3261 HZ	GROUP NAME: DG Y3255 KVAR	DESCRIPTION: DIESEL GENERATOR WITH TEMP Y3277 KW	Y3258 VOLTS	Y3260 AMPS	Y3262 HZ	Y325 KVAR
18:15:11	0.000	1.013E+03	-2.93	58.2	0.000	3.28	1.03	5.859E-02	60.3	3.2

A. U. A

OMAHA PUBLIC POWER DISTRICT

FORT CALHOUN STATION

LOG DATE
6/26/91

PAGE 2

DEMANDED WEATHER LOG

DELTA TEMPS (LOG C)

TEMP (LOG C)

XZC (TEMP)

TIME	DELTA1	DELTA2	DELTA3	TEMP1	TEMP2	TEMP3	XZC
1:00	-0.9	-1.8	-0.8	23.9	23.8	27.7	0.0000102
2:00	-0.9	-1.8	-0.7	23.4	23.8	27.2	0.0000111
3:00	-0.9	-1.8	-0.7	22.8	22.6	26.6	0.0000103
4:00	-0.9	-1.8	-0.6	22.2	21.9	25.9	0.0000188
5:00	-0.8	-1.7	-0.7	21.8	21.4	25.6	0.0000134
6:00	-0.8	-1.7	-0.4	21.4	21.1	25.2	0.0000165
7:00	-0.8	-1.7	-0.3	21.3	20.4	25.0	0.0000152
8:00	-0.9	-1.8	-0.5	21.4	21.1	25.3	0.0000161
9:00	-1.0	-1.9	-0.7	22.4	22.1	26.2	0.0000167
10:00	-1.1	-2.0	-0.9	23.7	23.4	27.5	0.0000190
11:00	-1.5	-2.4	-1.3	25.6	25.1	29.3	0.0000063
12:00	-1.5	-2.5	-1.4	27.2	26.3	30.5	0.0000085
13:00	-1.7	-2.7	-1.6	28.4	28.1	31.8	0.0000020
14:00	-1.7	-2.7	-1.6	29.5	29.1	32.9	0.0000022
15:00	-1.6	-2.6	-1.5	29.8	29.5	33.2	0.0000022
16:00	-1.5	-2.5	-1.5	31.4	31.1	34.8	0.0000051
17:00	-1.5	-2.5	-1.4	31.9	31.6	35.3	0.0000048
18:00	-1.4	-2.4	-1.3	31.5	31.3	34.9	0.0000071
19:00	-1.1	-2.2	-1.0	30.5	30.2	33.8	0.0000187
20:00	-0.8	-1.8	-0.6	29.8	28.8	32.4	0.0000120
21:00	-0.7	-1.8	-0.5	27.7	27.4	30.8	0.0000104
22:00	-0.8	-1.8	-0.7	26.9	26.6	30.2	0.0000099
23:00	-0.8	-1.8	-0.7	26.0	25.5	29.5	0.0000131
0:00	-0.8	-1.8	-0.7	24.9	24.5	28.6	0.0000112

FORT CALHOUN STATION WEATHER TOWER
HOURLY AVERAGE TEMPERATURES DURING
THE JUNE 26, 1991 DC-1 TEST

DATE 6/25/1990

POINT/GROUP TEND REPORT

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12
016 F
-52.0

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

TIME	V3276	V3257	V3259	V3261	V3255	V3277	V3258	V3260	V3262	V3254
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:13:24	2.4251+03	4.1941+03	595.	60.0	1.5361+03	3.28	0.513	5.8591-02	60.3	3.28

12
016 F
62.5

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

TIME	V3276	V3257	V3259	V3261	V3255	V3277	V3258	V3260	V3262	V3254
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:13:25	2.4271+03	4.1941+03	595.	60.0	1.5491+03	3.28	0.513	0.117	60.3	3.28

12
016 F
-42.0

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

TIME	V3276	V3257	V3259	V3261	V3255	V3277	V3258	V3260	V3262	V3254
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:13:25	2.4181+03	4.1941+03	595.	60.0	1.5651+03	3.28	1.03	0.000	60.3	3.28

12
016 F
-62.9

TIME

GROUP NAME: CG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

TIME	V3276	V3257	V3259	V3261	V3255	V3277	V3258	V3260	V3262	V3254
	KW	VOLTS	AMPS	HZ	KVARS	KW	VOLTS	AMPS	HZ	KVARS
15:13:25	2.4251+03	4.1941+03	595.	60.0	1.5911+03	3.28	1.03	5.8591-02	60.3	3.28

DATE 6/25/1990

POINT/GROUP TREND REPORT

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

12

DEG F

-62.9

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVARs

15:14:0126 2.422E+03

4.194E+03

395.

60.0

1.601E+03

3.28

0.513

5.859E-02

60.0

3.28

12

DEG F

-62.9

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVARs

15:14:1106 2.422E+03

4.196E+03

395.

60.0

1.591E+03

3.28

1.03

0.07

60.0

3.28

12

DEG F

-62.9

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVARs

15:14:2128 2.422E+03

4.190E+03

394.

60.0

1.479E+03

3.28

1.03

0.117

60.0

3.28

12

DEG F

78.7

TIME

GROUP NAME: DG

DESCRIPTION: DIESEL GENERATOR WITH TEMP

Y3276

Y3257

Y3259

Y3261

Y3255

Y3277

Y3258

Y3260

Y3262

Y3256

KW

VOLTS

AMPS

HZ

KVARs

KW

VOLTS

AMPS

HZ

KVARs

14:31:28 2.422E+03

4.192E+03

375.

60.0

1.298E+03

3.28

1.03

0.000

60.0

3.28

Diesel Generator Performance Vs. Actual Test Data

DG-1 6/26/91 Test

Time	Outdoor Ambient	Turbo Inlet	ΔT Turbo Air-110	JW OUT	ΔT JW	JW at	Turbo in	Derate Factor	Derate Power	Post LOCA Demand Load	Actual (Test) Load
0 (1620)	95	99	4	149	54	164	114	1.0	2784	2551	2336
10(1630)	95	100	5	181	86	196	115	.93	2589	2531	2536
20(1640)	95	102	7	187	92	202	117	.925	2575	2512	2556
30(1650)	95	103	8	189	94	204	118	.924	2572	2492	2546
40(1700)	96	105	9	191	95	205	119	.92	2561	2492	2556
50(1710)	96	105	9	190	94	204	119	.92	2561	2492	2507
60(1720)	96	106	10	190	94	204	120	.917	2552	2237	2492
70(1730)	96	106	10	190	94	204	120	.917	2552	2237	2500
90(1750)	96	107	11	183	97	197	121	.915	2547	2237	2200
120(1820)	95	107	12	188	93	203	122	.913	2541	2237	2200

DG-2 8/27/91 Test

Time	Outdoor Ambient	Turbo Inlet	ΔT Turbo 110°F	JW OUT	ΔT JW-Air	JW at	Turbo 110°F	Derate Factor	Derate Power	Post LOCA Demand Load	Actual (Test) Load
0 (1420)	86	93.3	8	106	20	130	118	1.0	2784	2421	0
10(1430)	86	98.7	13	160	74	184	123	1.0	2784	2410	
20(1440)	86	101	15	174	88	198	125	.905	2520	2399	2554
30(1450)	86	103	17	178	92	202	127	.90	2505	2388	2467
40(1500)	87	103	16	180	93	203	126	.90	2505	2388	2448
50(1510)	87	105	18	180	93	203	126	.893	2486	2388	2513
60(1520)	87	106	19	180	93	203	129	.89	2477	2131	2392
70(1530)	87.5	106	19	180	92.5	203	129	.89	2477	2131	2389
90(1550)	87.5	107	20	180	92.5	203	130	.89	2477	2131	2400
120(1620)	88	108	20	181	93	203	130	.89	2477	2131	2345

Diesel Generator Performance Vs. Actual Test Data

DG-1 6/26/91 Test

Time	Outdoor Ambient	Turbo Inlet	ΔT Turbo Air-110	JW OUT	ΔT JW	JW at	Turbo in	Derate Factor	Derate Power	Post LOCA Demand Load	Actual (Test) Load
0 (1620)	95	99	4	149	54	164	114	1.0	2784	2551	2336
10(1630)	95	100	5	181	86	196	115	.93	2589	2531	2536
20(1640)	95	102	7	187	92	202	117	.925	2575	2512	2556
30(1650)	95	103	8	189	94	204	118	.924	2572	2492	2546
40(1700)	96	105	9	191	95	205	119	.92	2561	2492	2556
50(1710)	96	105	9	190	94	204	119	.92	2561	2492	2507
60(1720)	96	106	10	190	94	204	120	.917	2552	2237	2492
70(1730)	96	106	10	190	94	204	120	.917	2552	2237	2500
90(1750)	96	107	11	183	87	197	121	.915	2547	2237	2200
120(1820)	95	107	12	188	93	203	122	.913	2541	2237	2200

DG-2 8/27/91 Test

Time	Outdoor Ambient	Turbo Inlet	ΔT Turbo	JW OUT 110°F	ΔT JW-Air	JW at	Turbo 110°F	Derate Factor	Derate Power	Post LOCA Demand Load	Actual (Test) Load
0 (1420)	86	93.3	8	106	20	130	118	1.0	2784	2421	0
10(1430)	86	98.7	13	160	74	184	123	1.0	2784	2410	
20(1440)	86	101	15	174	88	198	125	.905	2520	2399	2554
30(1450)	86	103	17	178	92	202	127	.90	2505	2388	2467
40(1500)	87	103	16	180	93	203	126	.90	2505	2388	2448
50(1510)	87	105	18	180	93	203	128	.893	2486	2388	2513
60(1520)	87	106	19	180	93	203	129	.89	2477	2131	2392
70(1530)	87.5	106	19	180	92.5	203	129	.89	2477	2131	2389
90(1550)	87.5	107	20	180	92.5	203	130	.89	2477	2131	2400
120(1620)	88	108	20	181	93	203	130	.89	2477	2131	2346