

MAINTENANCE DATA RECORD FORM
REFUELING INTERVAL BATTERY SERVICE TEST

CDH File No. AAO2-008-FDP

SONGS Unit No. 2

M. O. No. 84042241

Battery Bank No. 23007

Charger No. 2Bc 21

Prerequisites Met

Signature

Date _____

Step Number	Data Description	Data Values	Acceptance Criteria	Recorder/Verifier Signature/Date
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6.1.4 Battery starting voltage 123.34 N.A.
925 VDC

6.1.5.4 Service Test Starting 2332 N.A.
Time

6.1.6.3 Service Test
Termination Data:

a) Time of Completion 01:32 PM N.A.

- b) Low cell voltage

File No.:

c) Low Battery Voltage 116.51 105 VDC

d) Test stopped

(manual or a

e) Total elapsed time (minutes)

Attach. 9.2

6.1.7 Pre-test connections re-established

6.2.5 Initial Readings Time 2:55 PM
Volts 128
Amps 360 > 125 VDC
300 amps

5.2.7 Hourly Readings

Time	Voltage	Amps
355 PM	135	350
455	136	370
1755	134.50	330
655 PM	135.50	325
255	135	320
855	136	330
955	135	330
2255	136	330
2355	136	320
2455	136	330
0155	136 Volts	330 Amps
0255	136 Volts	330 Amps

300 amps
≥ 125 VDC

[illegible]

- (2) The batteries were clean and appeared to be in excellent condition. Intercell connectors were free of corrosion; vent caps were in place on all cells. Batteries were installed in accordance with approved drawings.
- (3) There were two cells jumpered out in each 60-cell battery, effectively making each one a 58-cell battery.

b. Battery Maintenance and Surveillance Program

The inspector reviewed the latest revision of the battery maintenance and surveillance procedures for San Onofre Units 2 and 3:

<u>Procedure No.</u>	<u>Title</u>
S023 - I - 2.12	"Weekly Inspection of Batteries"
S023 - I - 2.13	"Quarterly Inspection of Batteries"
S023 - I - 2.14	"Refueling Interval Inspection of Batteries"
S023 - I - 2.15	"Refueling Interval Battery Service Test"
S023 - I - 2.16	"Battery Performance Test"

The procedures satisfied the requirements of Technical Specifications, NUREG-1.129 "Maintenance, Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants", IEEE Standard 450-1980 "IEEE Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries for Generating Stations and Substations", and the manufacturer's technical instructions.

Based on this review, the inspector verified that an adequate surveillance program exists for the San Onofre Units 2 and 3 batteries

c. Surveillance Activity

The inspector reviewed the schedule and records of all surveillance activity on the San Onofre Units 2 and 3 batteries since the batteries were placed in service. The record showed that surveillances were performed in a satisfactory manner within the prescribed intervals. One surveillance discrepancy was identified. The 18-month surveillance procedure (S023-I-2.15) was not conducted on Unit 2 batteries 2B007 and 2B008 from the time the batteries were placed in service (February 1982) until it was accomplished during the current refueling outage. Therefore, for approximately one year the operability of these batteries was not demonstrated with respect to their ability to carry rated vital loads during an emergency. The exact durations of these failures to demonstrate operability were:

- ° Battery 2B007, from 12/6/83 to 12/20/84
- ° Battery 2B008, from 12/7/83 to 2/27/85

VIOLATION

MAINTENANCE DATA RECORD FORM
REFUELING INTERVAL BATTERY SERVICE TEST

CDM File No. AAC2-008-FDP

SUNGS Unit No. 2

N. O. No. 84042241

Battery Bank No. 25007

Charger No. 2B00/

Prerequisites Met

Signature

Date _____

Step Number	Data Description	Data Values	Acceptance Criteria	Recorder/Verifier Signature/Date
6.1.4	Battery starting voltage	123.34	N.A. ≥ 125 VDC	D Mark 12-18-84
6.1.5.4	Service Test Starting Time	2332	N.A.	D Mark 12-18-84
6.1.6.3	Service Test Termination Data:			
	a) Time of Completion	0102		
	b) Low cell voltages	0132 PM	N.A.	D Mark 12-18-84
	c) Low Battery Voltage	116.51	≥ 125 VDC ≥ 105 VDC	
	d) Test stopped (manual or auto)	Manual	N.A.	D Mark 12-18-84
	e) Total elapsed time (minutes)	90 min 91	Attach. 9.2	D Mark 12-18-84
6.1.7	Pre-test connections re-established			Chadwick 11/2/84
6.2.5	Initial Readings	Time 2:55 PM Volts 128 Amps 360	> 125 VDC 300 amps	J. B. 12-14-84
6.2.7	Hourly Readings			
	Time	Voltage	Amps	
	3:55 PM	135	350	
	4:55	136	370	
	17:55	134.50	330	
	6:55 PM	135.50	325	
	7:55	135	330	
	8:55	136	330	
	9:55	135	330	
	12:55	136	330	
	2:55	136	330	
	24:55	136	330	
	01:55	136 Volts	370 Amps	
	02:55	136 Volts	350 Amps	

- (2) The batteries were clean and appeared to be in excellent condition. Intercell connectors were free of corrosion; vent caps were in place on all cells. Batteries were installed in accordance with approved drawings.
- (3) There were two cells jumpered out in each 60-cell battery, effectively making each one a 58-cell battery.

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VIOLATION

GENERATING STATION LOG

UNIT 3

SATURDAY

DATE

12-1-84

MIDNIGHT STATUS

MODE 1 2 3 Rx Power 0 MWe 0 EFPD 200.3 ESI 0

ESFAS STATUS: ("X" OOS systems)

SIAS A B CIAS A B CPIS A B RAS A B

CCAS A B CSAS A B FHIS ~~A~~ ~~B~~ TGIS A BCRIS A B EFAS ~~A~~ ~~B~~ EMERG PWR A BCPC/CEACs: A B ~~C~~ D #1 #2 ("X" OOS systems)RCP STATUS: P001 ON P002 ON P003 ON P004 ONRCS STATUS: Tc 540 Pressure 2250PZR PRESS CONTROL: Spray Valves, A A B APZR LEVEL CONTROL: Letdown Vlv, A 005 B ABackpress Reg Vlv, A 005 B AChrgng Pumps, P190 ON P191 ON P192 ACOLSS: Power Margin 87 DNBR 005 LPD 005 ASI 005 AZ Tilt 005REACTIVITY CONTROL: Rod Pos A @ 150" RCS Boron Conc 900 BORON METERSTM GEN STATUS: E088 Level 65 Blwdn 50 E089 Level 65 Blwdn 50MAIN FW PPs/TURBINES: K005/P063 005 K006/K062 005SBOS VLVS: HV8423 005 HV8424 005 HV8425 005 HV8426 005CONDENSATE PUMPS: P050 OFF P051 ON P052 OFF P053 ONHTR DRN PUMPS: P058 OFF P059 OFFCONDENSER VACUUM: 1.5" W/ AE or P054TURBINE STATUS: L.O. Pumps OK Seal Oil Pumps OKStator Wtr Pumps OFF ETG ON (status)TPCW PUMPS: P119 ON P120 ON other unit X-TIEDCIRC WTR PUMPS: P115 ON P116 ON P117 ON P118 ONSALT WTR PUMPS: P112 ON P113 ON P114 ON P307 005CCW PUMPS: P024 ON P026 ON P025 A TRN A/B

NC Loop on TRN A or B, L/D Hx on TRN A or B

COMPUTERS STATUS: CFMS ON QSPDS ON TMS ON

SURVEILLANCES IN PROGRESS/DUE:

COMMENTS:

3P140 OPERABILITY TEST PENDING
 CONDSTE LONG PATH RECIRC IN PROGRESS
 WARMING STEAM LEADS IN PROGRESS
 CCW XTIED A/C TO U-2 SP HX.
 HPSI 3P-018 OOS.

GENERATING STATION LOG

UNIT 3

SATURDAY

DATE 12-1-84

TIME

0100 OPENED 1151V 3HV-8205

0110 OPENED 1151V 3HV-8204

0110 RECEIVED RCS ANALYSIS

pH = 6.35

O₂ = 10 µg

Li = 1.2 ppm

BORON = 906 ppm

0130 STARTED AFW 3P-140 FOR OPERABILITY TEST

0200 COMPLETED PLACING SIMULATED SIGNALS
 IN CHANNELS B, C, D S/G PRI. SIDE ΔP's
 EACH CHANNEL MOMENTARILY BYPASSED

0210 STOPPED AFW 3P-140 AFTER
 COMPLETING SURV: 5023-3-3.16.2
 AFW FLOW TEST

0300 COMPLETED PLANT STARTUP FROM COLD
 SHUTDOWN TO HOT STANDBY PER 5023-5-1.3
 COMPLETED MAIN STEAM LEADS WARMUP
 PER 5023-2-9

0300 CLOSED PER STEAM SINCE SAMPLE ISO VALVES
 DUE TO LEAK @ PC-078 BOUNDON TUBE.
 STOPPING PER DEGAS. 531208MU ISO CLOSED

0330 REMOVED SIMULATED SIGNALS IN
 CH B, C, D S/G PRI. SIDE ΔP's
 BYPASSES NORMAL AFTER REMOVAL

0350 WITHDREW SD BANK B

0400 WITHDREW PL GROUPS 1 & 2

UNIT 3

GENERATING STATION LOG

No 908590

TIME

SATURDAY

DATE 12.1-81

- 0445 ALIGNED BLOWDOWN $\frac{1}{4}$ TO BPS TO OUTFALL
STOPPED CONDENSE SLIPSTREAM THRU BPS
OVERBOARDED HOTWELLS, 100% \rightarrow 40%
- 0445 STARTED RCS DILUTION 950 ppm \rightarrow 656 ppm
- 0500 CEA 34 SLIPPED TO 90" DURING EXERCISE.
- 0535 COMPLETED SURV:
0535 ONCE A DAY PER 5023-3-3.26
0700 ONCE A SHIFT PER 5023-3-3.25
0600 ACTUAL SDIVL PER 5023-3-3.29
- 0640 PLACED BPS OUTLET TO HOTWELLS.
- 0705 WITHDRAW CEA 34 AFTER TIMER CARD REPLACED
- 0720 COMPLETED CEA MONTHLY AVAILABILITY TEST
PER 5023-3-3.5
- 0730 Boards, Charts, and Alarms checked, OK procedure verified current
Shipman, Turner, S. Dulard, McInnis, Nelson, etc.
- 0739 R. Eaker (deleted) has approval to replace insulation
on 30" 100% 2" thick insulation
- 0750 Started Aux feedwater 3P-140 for 1st test
S. Dulard
- 0818 Started Condensate pump 3P-CSC
Nelson
- 0830 Stopped the feedwater 3P-140 1st test

GENERATING STATION LOG

UNIT 3

SATURDAY

DATE

12-1-84

MIDNIGHT STATUS

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ESFAS STATUS: ("X" OOS systems)

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- 0739 R. Baker (McTavish) has approval to replace insulation
on 20" pipe to BPS downways
- 0750 Started Aux feedwater 3K-440 for 1st test
S. Dulard
- 0818 Started Condensate pump 3K-656
Nelson
- 0830 Stopped aux feedwater 3K-440 1st test
1st test